



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Hyundai Notebook

Test Model: HT13TA1E01

Environmental Conditions

Temperature:	23.8 ° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Nick Peng
Supervised by:	Li Huan





A.1 -20dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant0	0.814	N/A	Pass
NVNT	1-DH5	2441	Ant0	0.911	N/A	Pass
NVNT	1-DH5	2480	Ant0	0.843	N/A	Pass
NVNT	2-DH5	2402	Ant0	1.278	N/A	Pass
NVNT	2-DH5	2441	Ant0	1.318	N/A	Pass
NVNT	2-DH5	2480	Ant0	1.272	N/A	Pass
NVNT	3-DH5	2402	Ant0	1.301	N/A	Pass
NVNT	3-DH5	2441	Ant0	1.304	N/A	Pass
NVNT	3-DH5	2480	Ant0	1.29	N/A	Pass

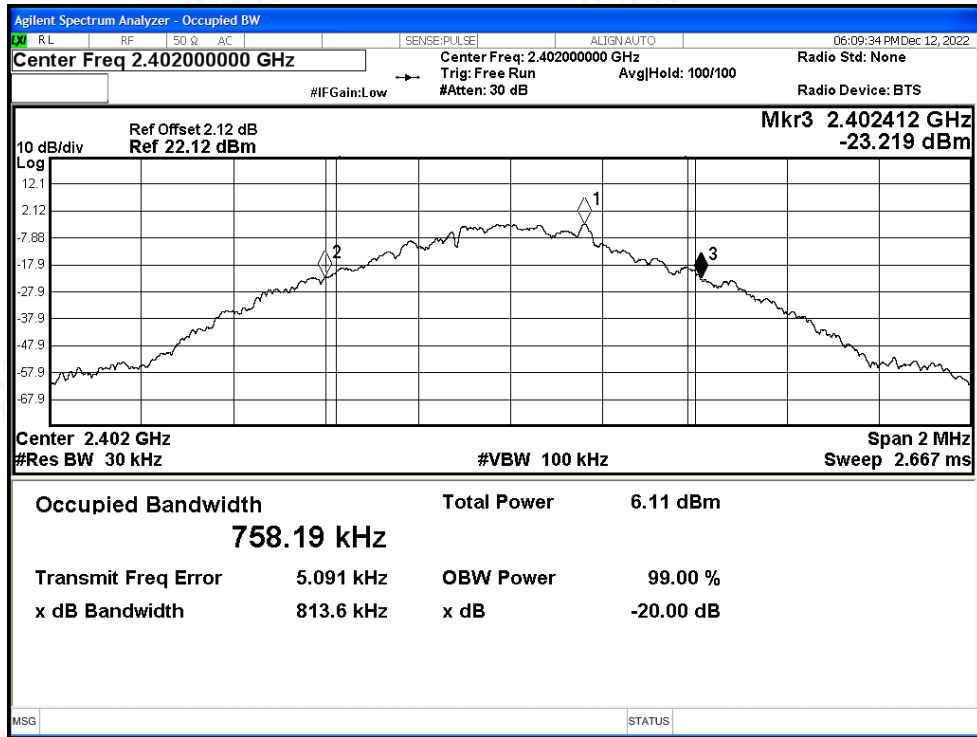


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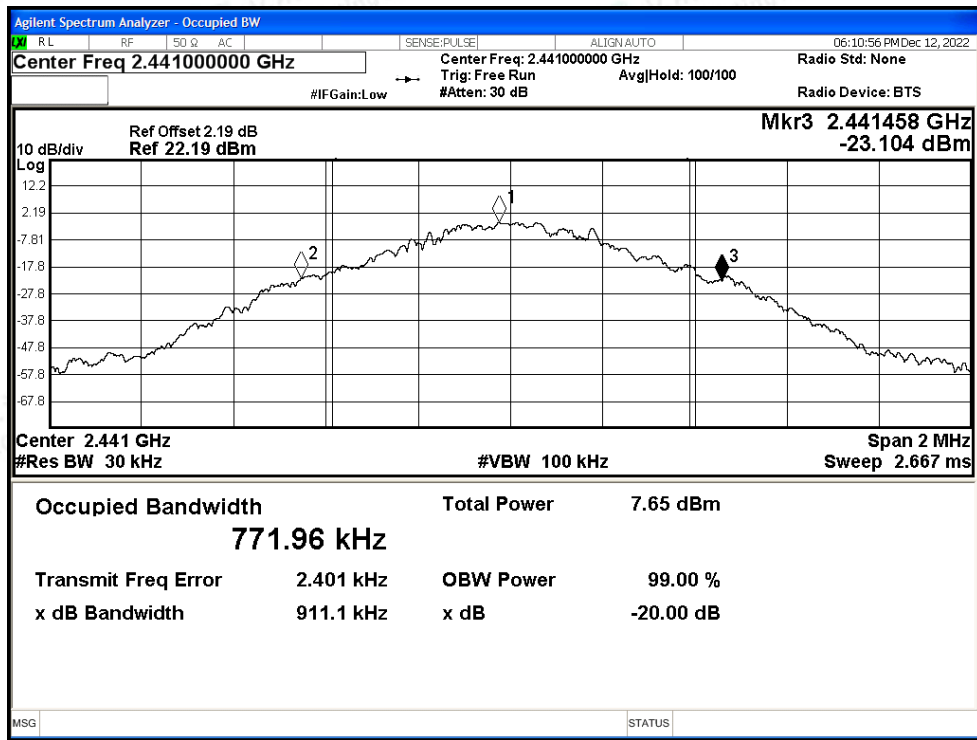


Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant0

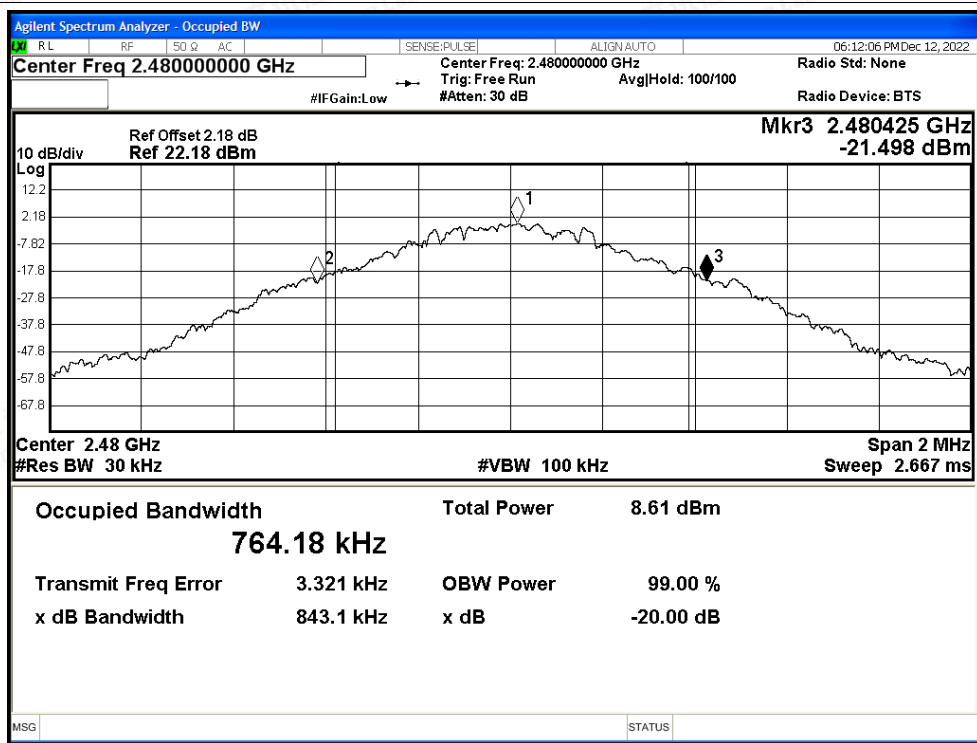


-20dB Bandwidth NVNT 1-DH5 2441MHz Ant0

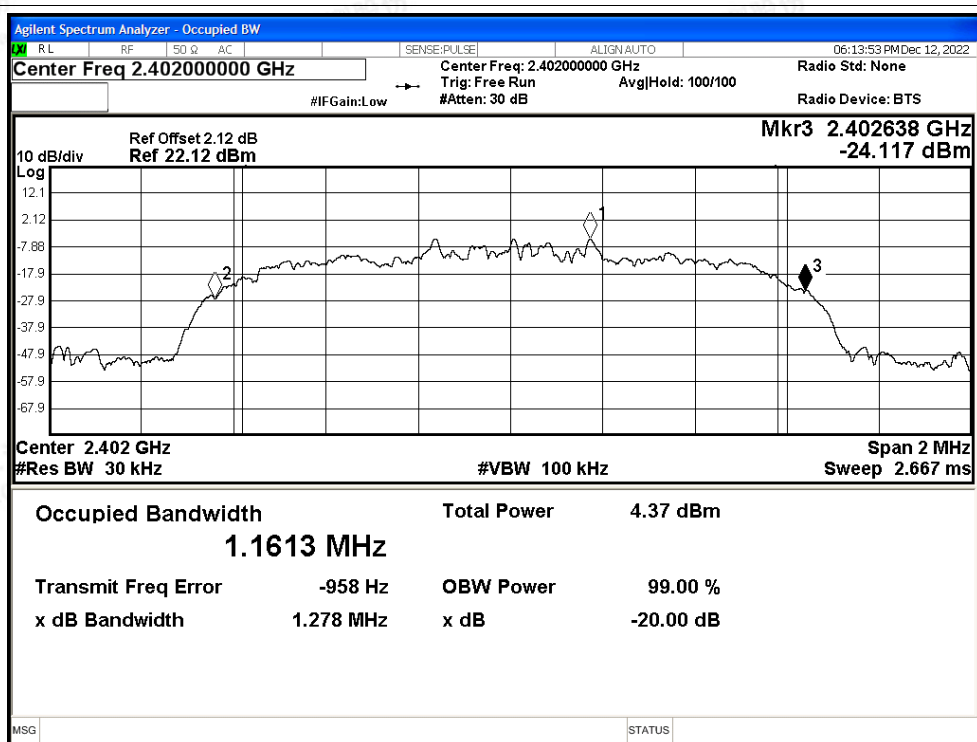




-20dB Bandwidth NVNT 1-DH5 2480MHz Ant0

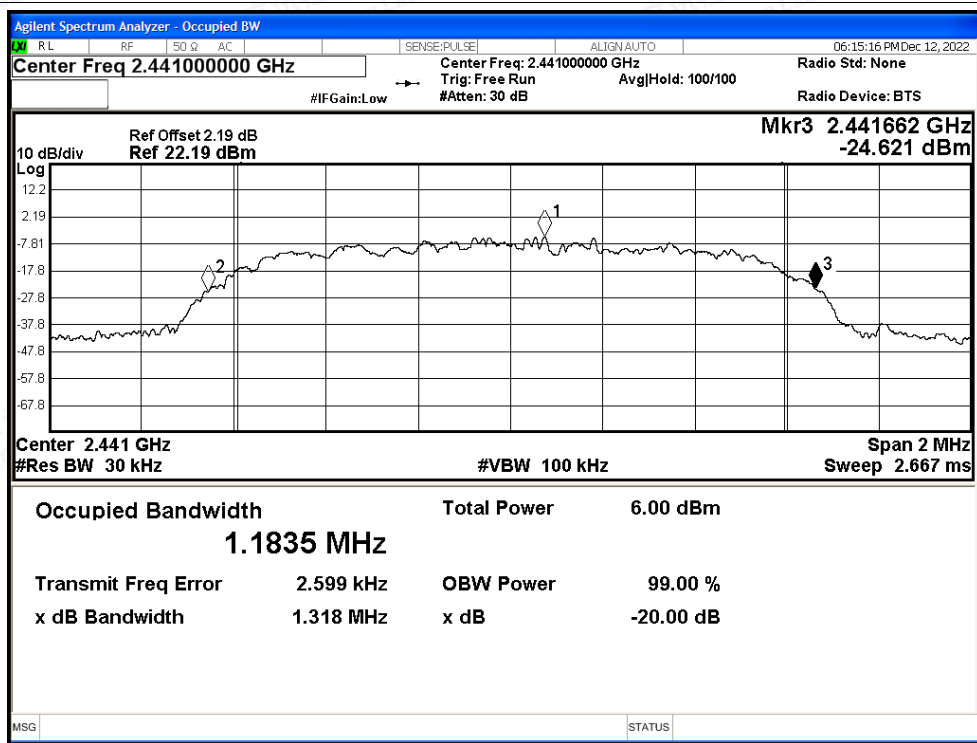


-20dB Bandwidth NVNT 2-DH5 2402MHz Ant0

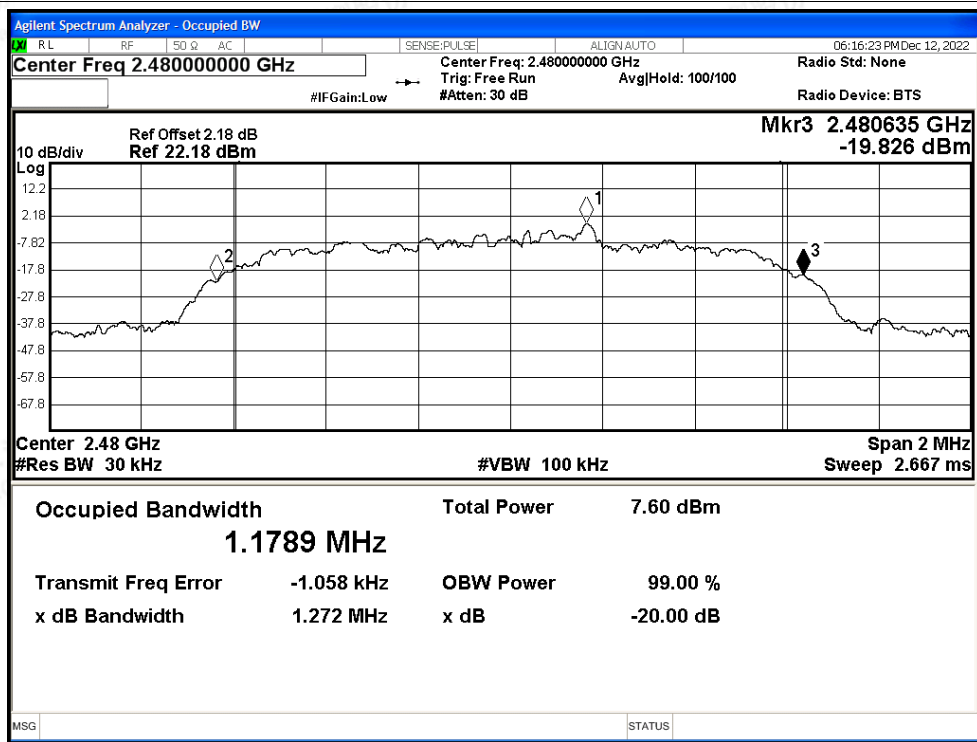




-20dB Bandwidth NVNT 2-DH5 2441MHz Ant0

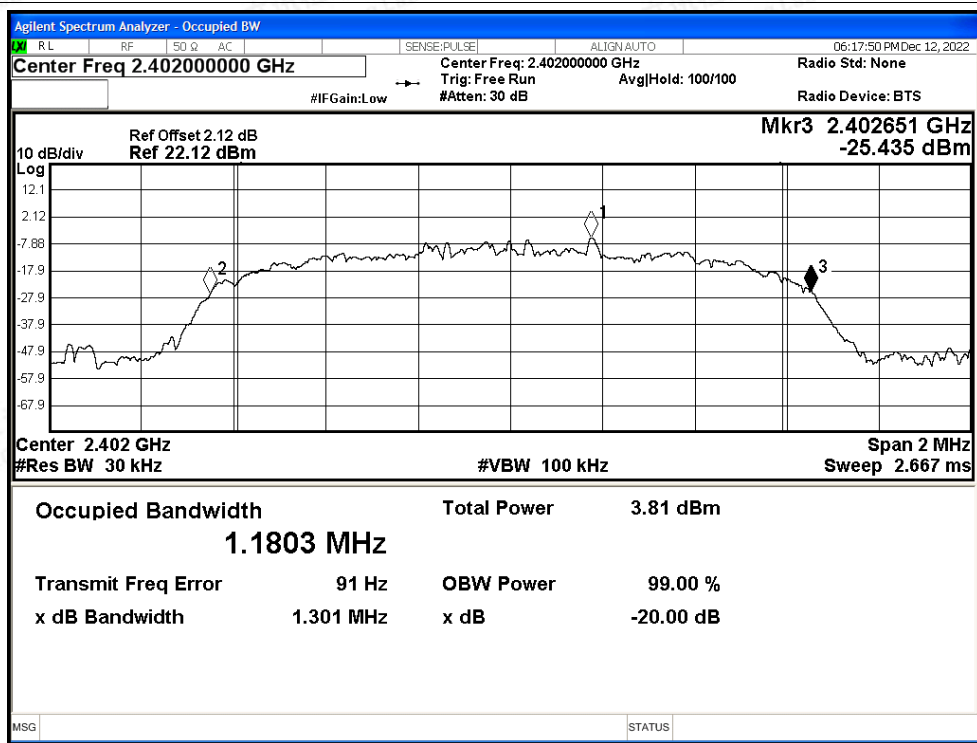


-20dB Bandwidth NVNT 2-DH5 2480MHz Ant0

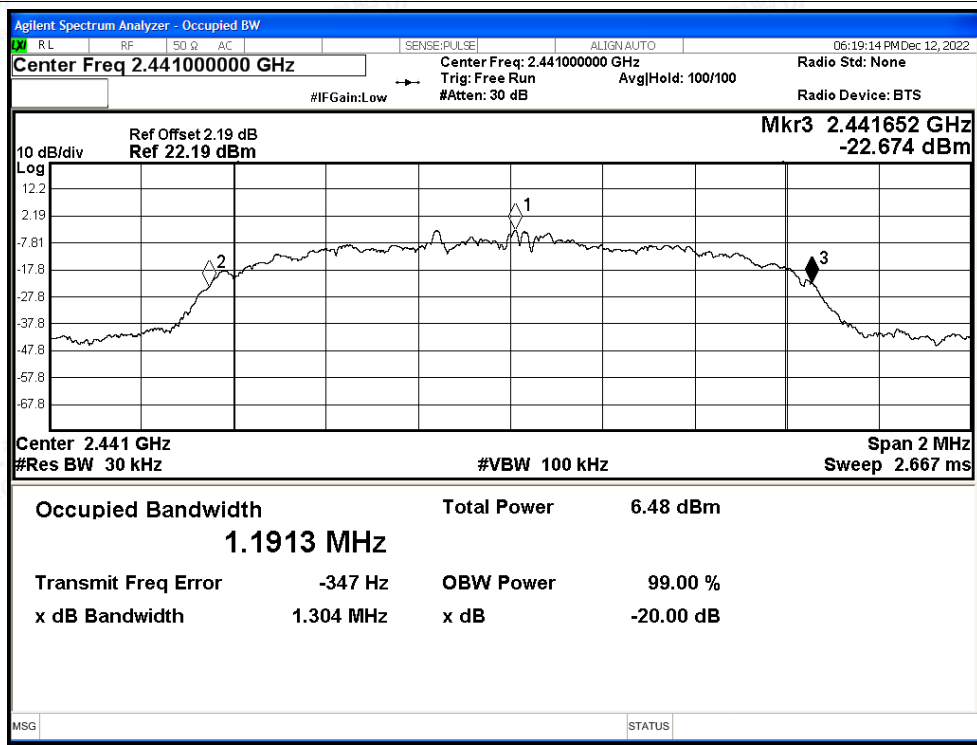


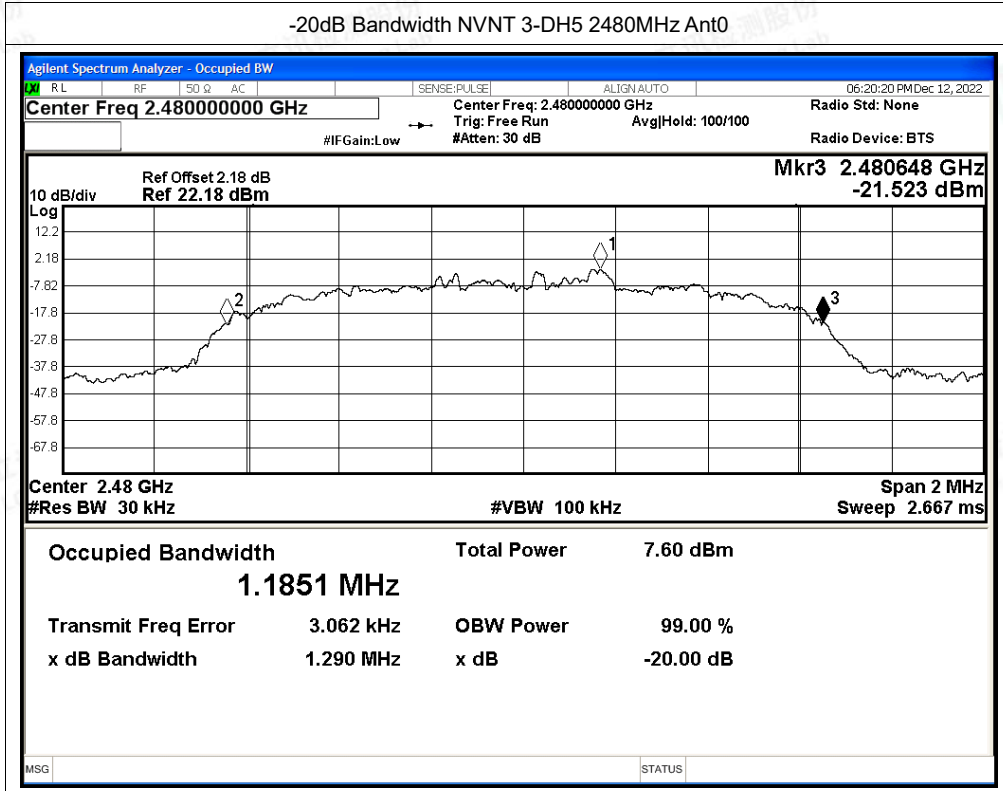


-20dB Bandwidth NVNT 3-DH5 2402MHz Ant0



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant0







A.2 Maximum Conducted Output Power

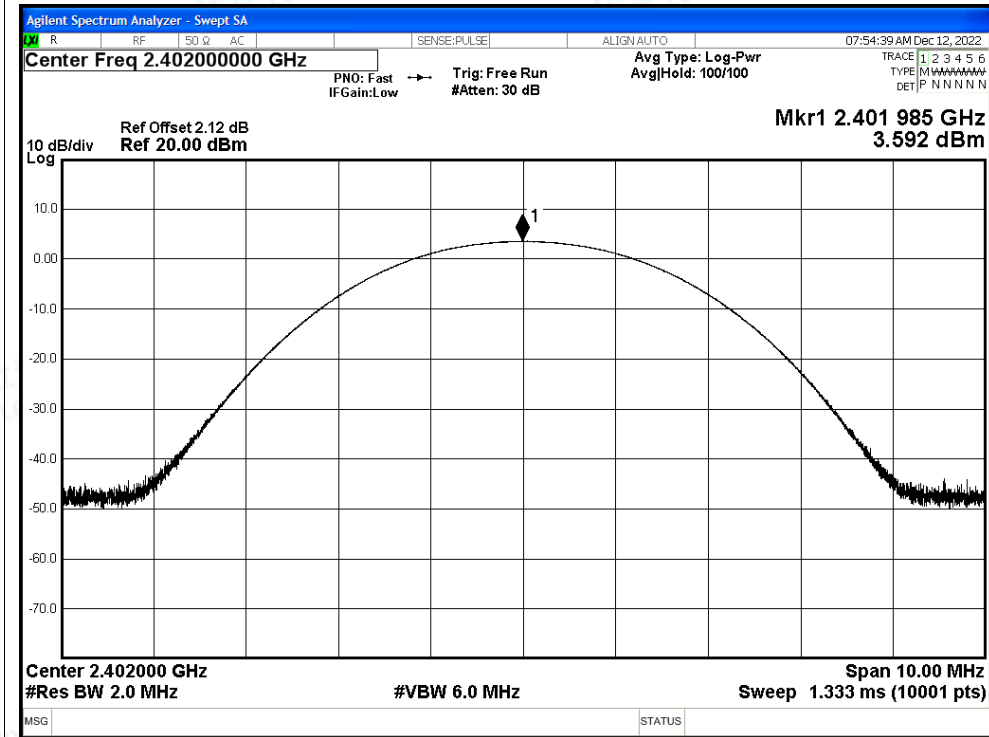
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant0	3.59	21	Pass
NVNT	1-DH5	2441	Ant0	2.93	21	Pass
NVNT	1-DH5	2480	Ant0	2.61	21	Pass
NVNT	2-DH5	2402	Ant0	2.72	21	Pass
NVNT	2-DH5	2441	Ant0	2.98	21	Pass
NVNT	2-DH5	2480	Ant0	2.72	21	Pass
NVNT	3-DH5	2402	Ant0	2.67	21	Pass
NVNT	3-DH5	2441	Ant0	2.94	21	Pass
NVNT	3-DH5	2480	Ant0	2.68	21	Pass



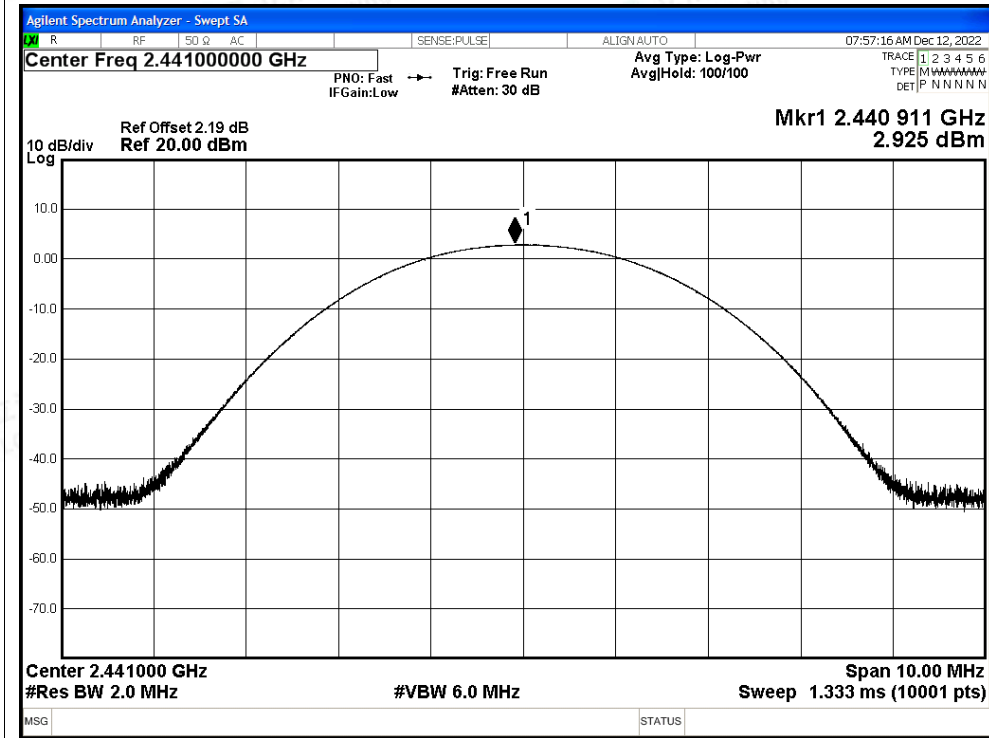


Test Graphs

Power NVNT 1-DH5 2402MHz Ant0

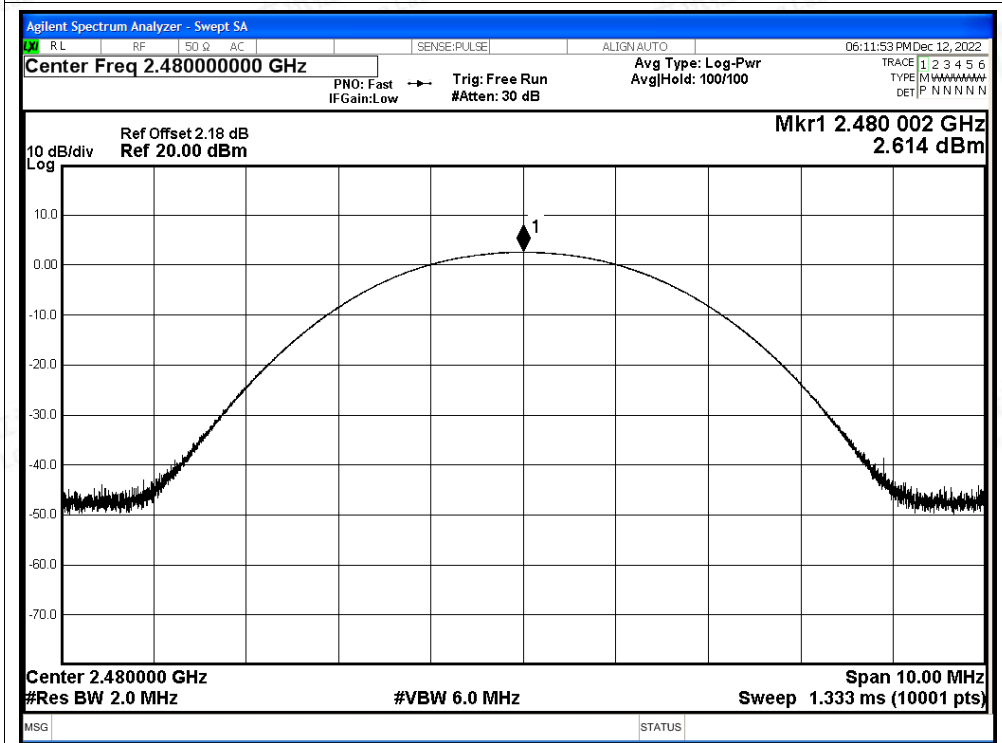


Power NVNT 1-DH5 2441MHz Ant0

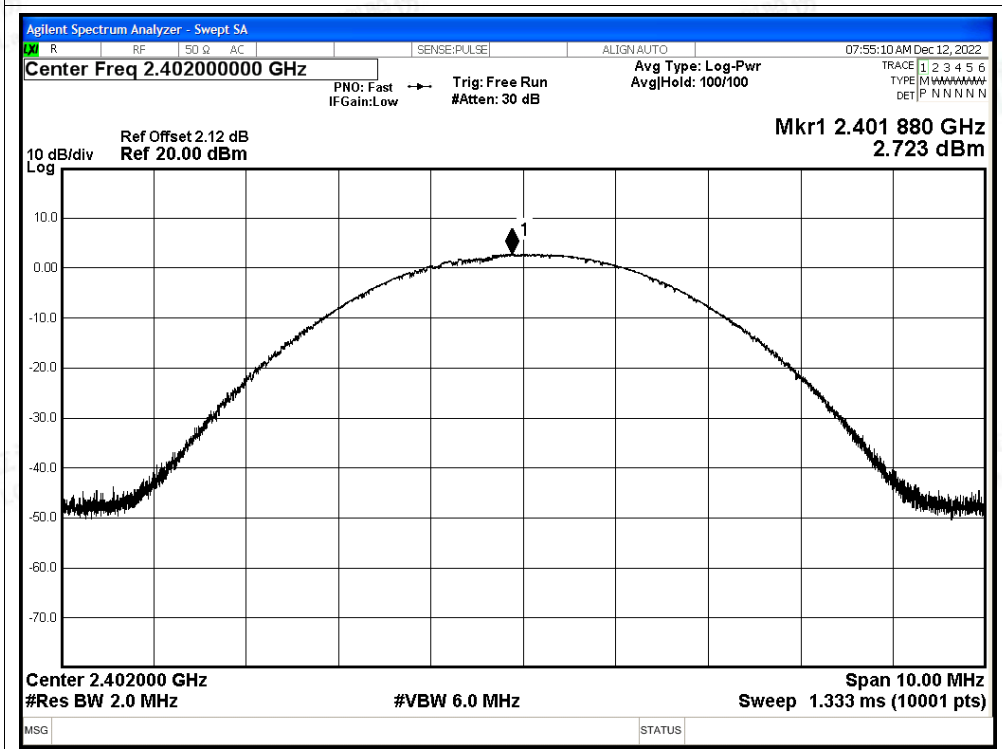




Power NVNT 1-DH5 2480MHz Ant0

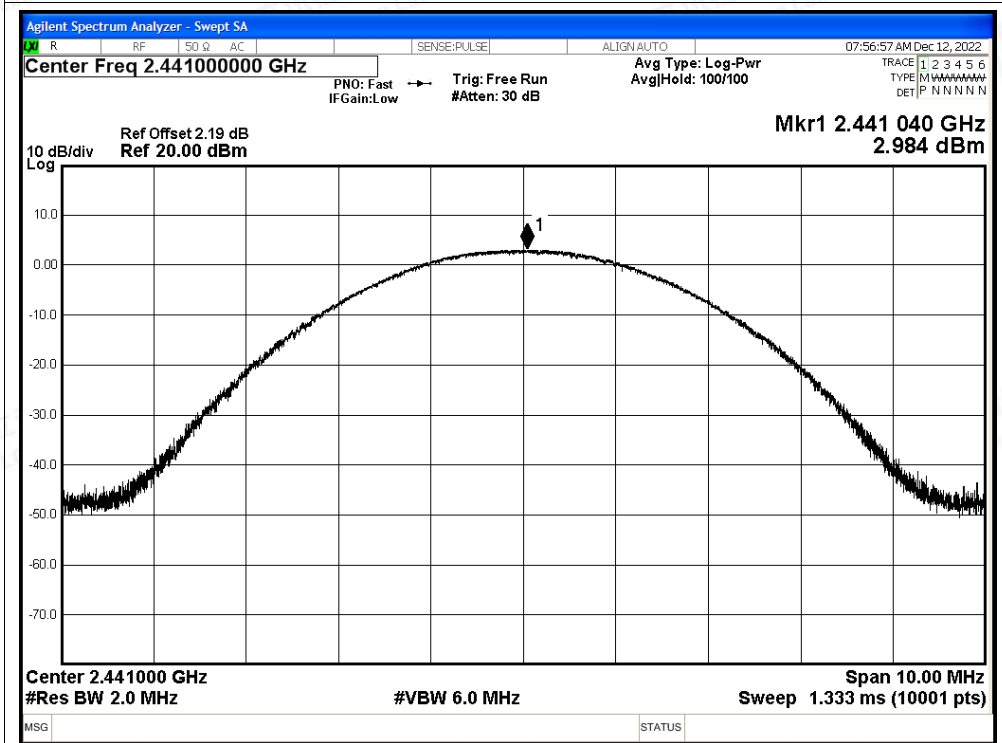


Power NVNT 2-DH5 2402MHz Ant0

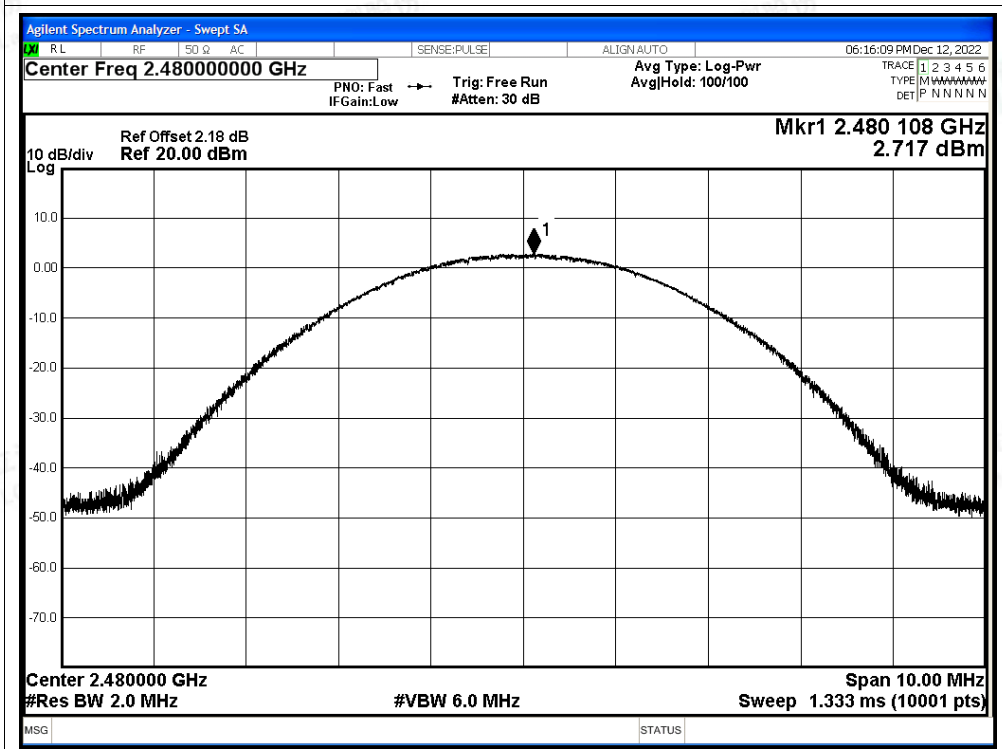




Power NVNT 2-DH5 2441MHz Ant0

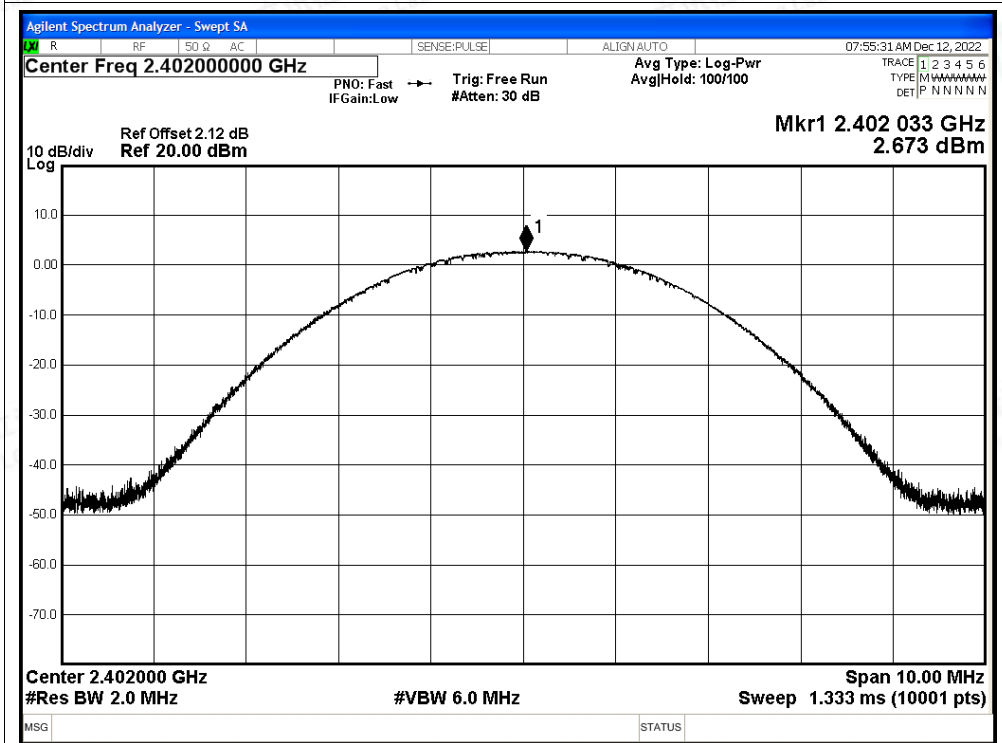


Power NVNT 2-DH5 2480MHz Ant0

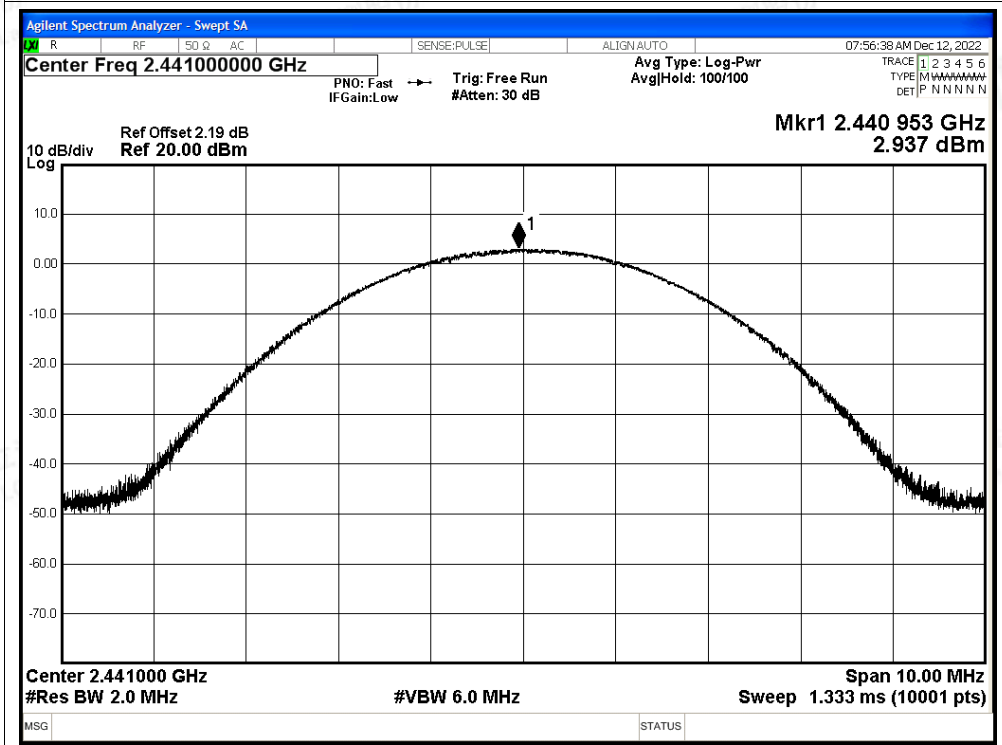


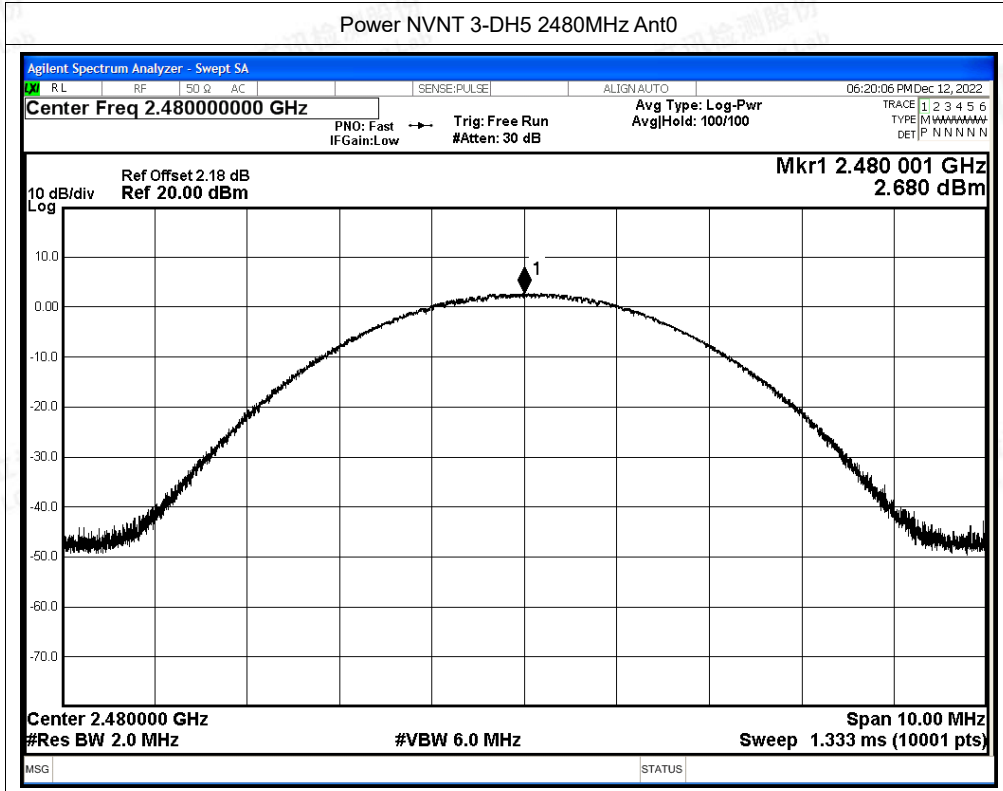


Power NVNT 3-DH5 2402MHz Ant0



Power NVNT 3-DH5 2441MHz Ant0







A.3 Carrier Frequencies Separation

Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant0	2401.976	2403.062	1.086	0.607	Pass
NVNT	2-DH5	Ant0	2402.01	2403.166	1.156	0.879	Pass
NVNT	3-DH5	Ant0	2402.166	2403.162	0.996	0.869	Pass

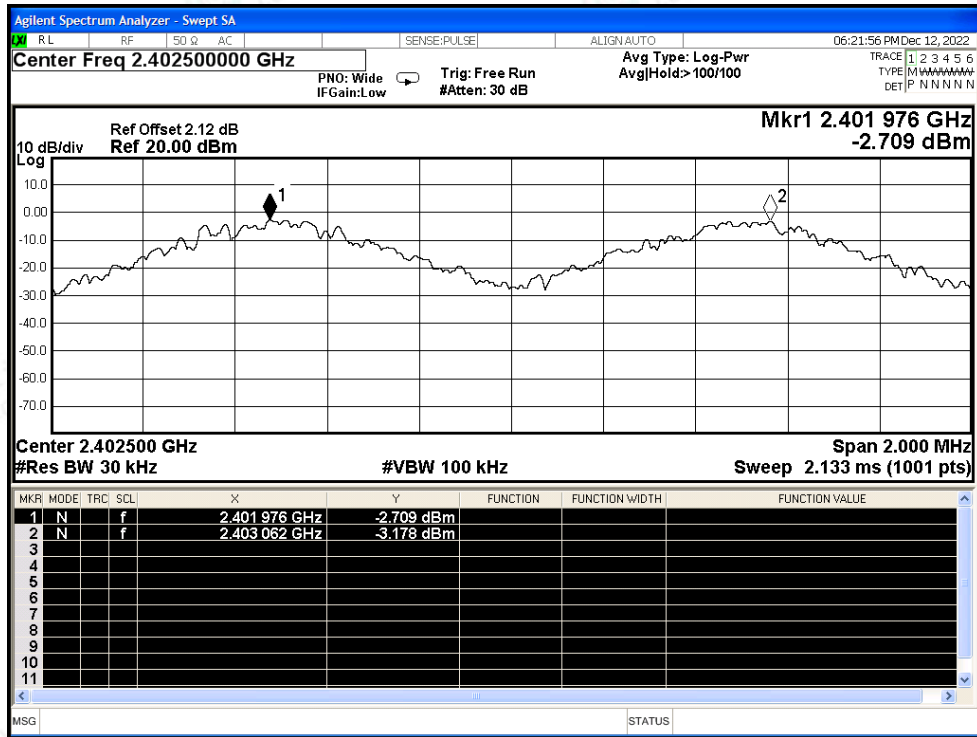


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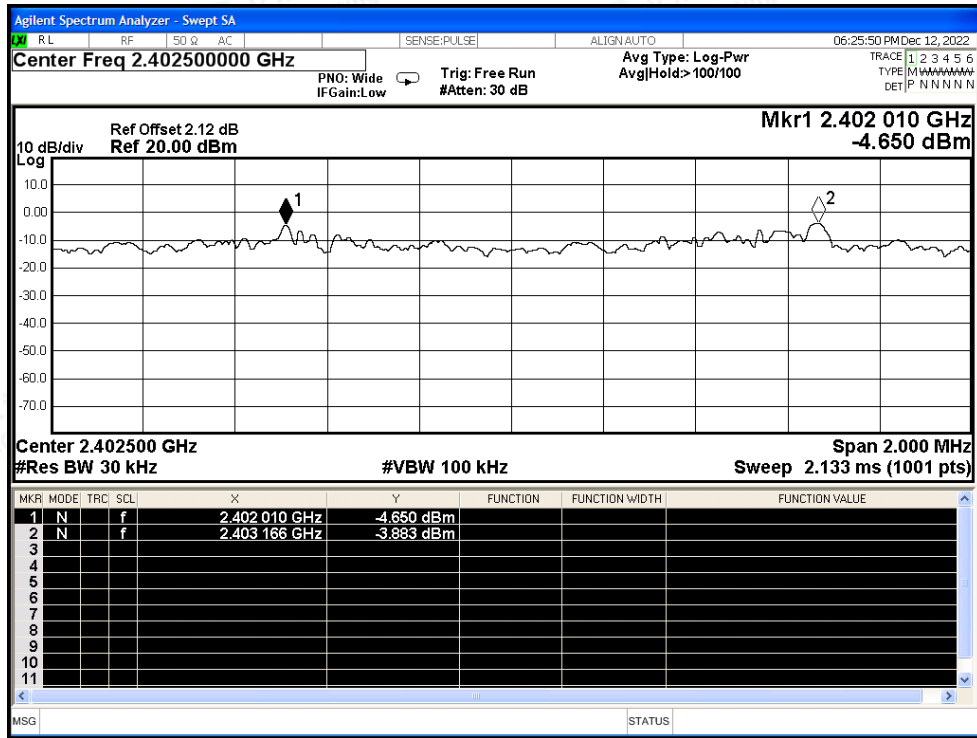


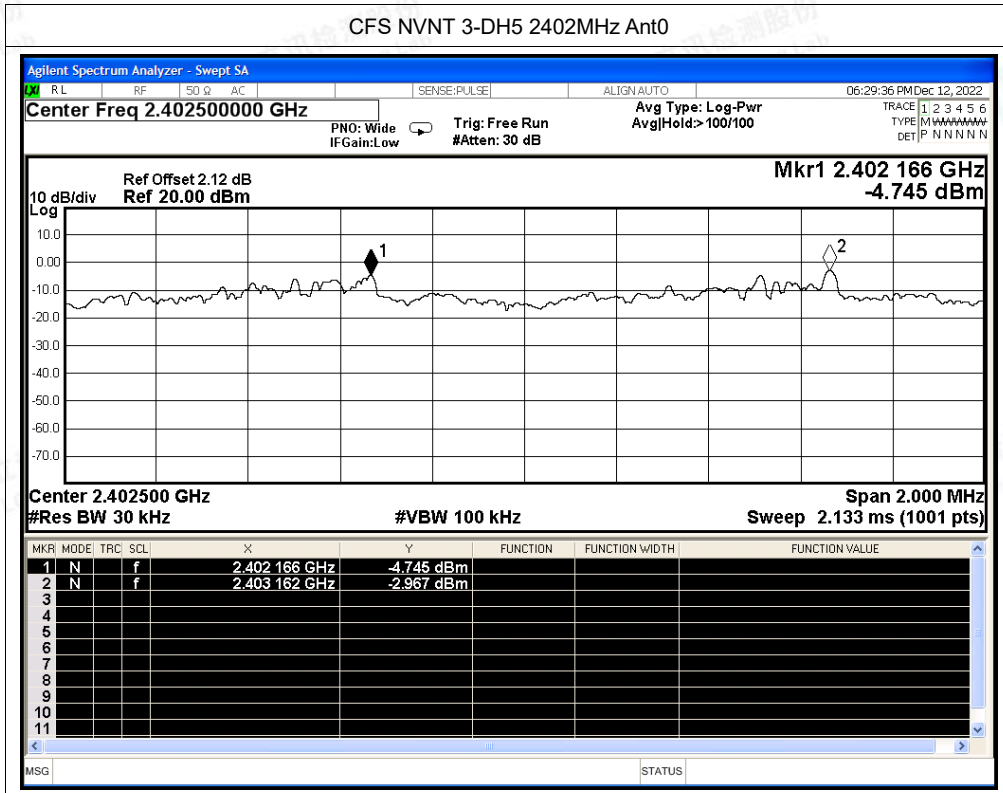
Test Graphs

CFS NVNT 1-DH5 2402MHz Ant0



CFS NVNT 2-DH5 2402MHz Ant0







A.4 Dwell Time

Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant0	2.882	291.082	101	31600	400	Pass
NVNT	2-DH5	2402	Ant0	2.885	297.155	103	31600	400	Pass
NVNT	3-DH5	2402	Ant0	2.886	297.258	103	31600	400	Pass

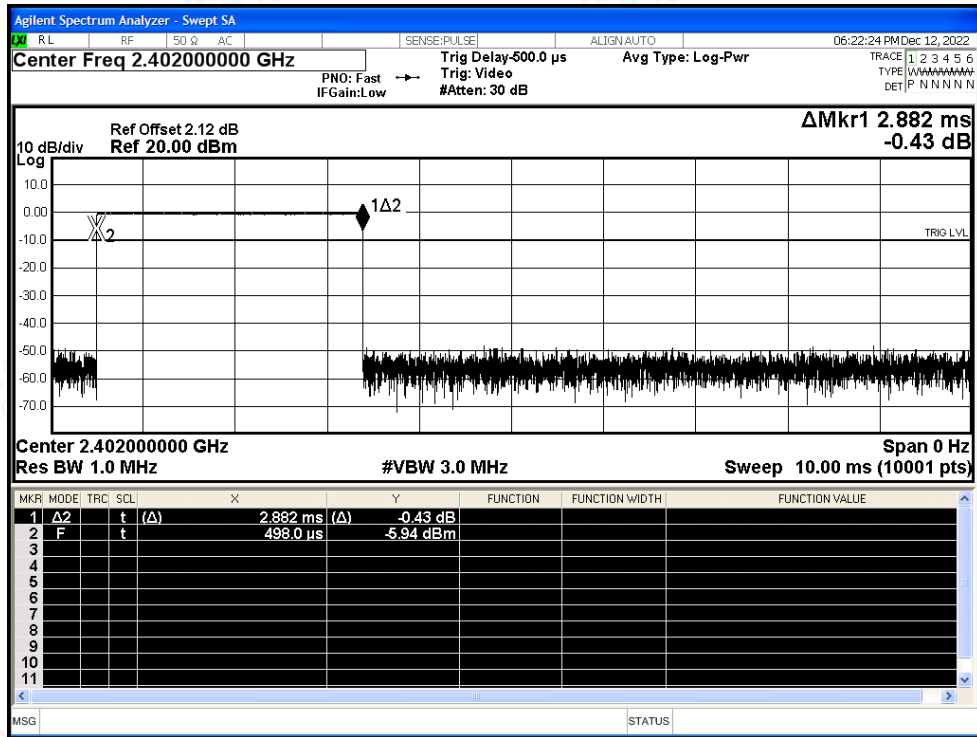


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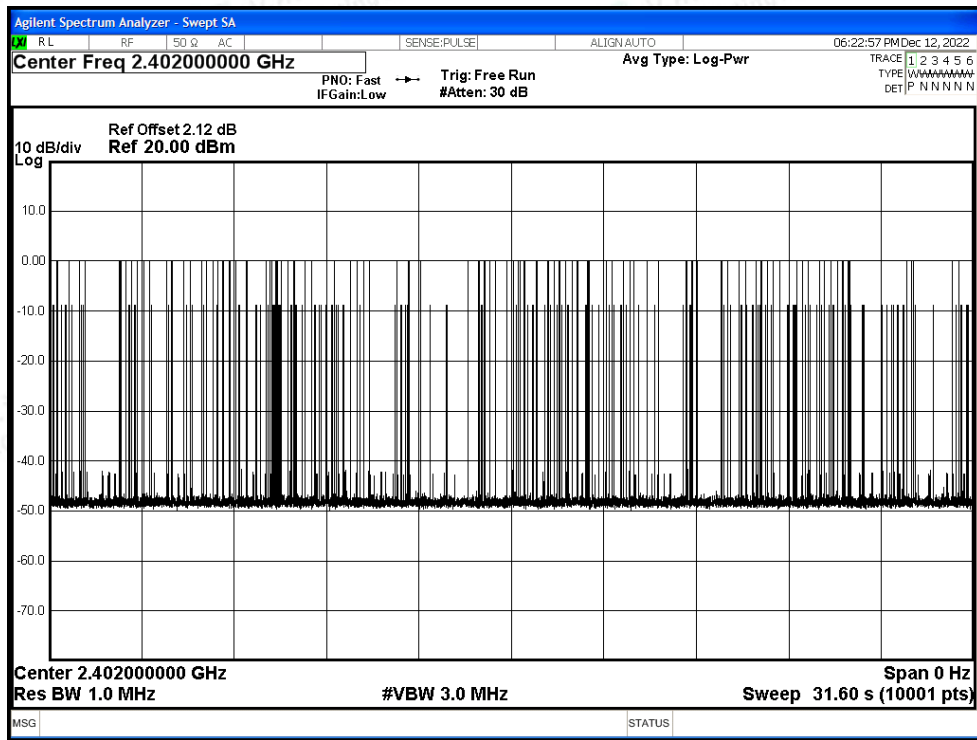


Test Graphs

Dwell NVNT 1-DH5 2402MHz Ant0 One Burst

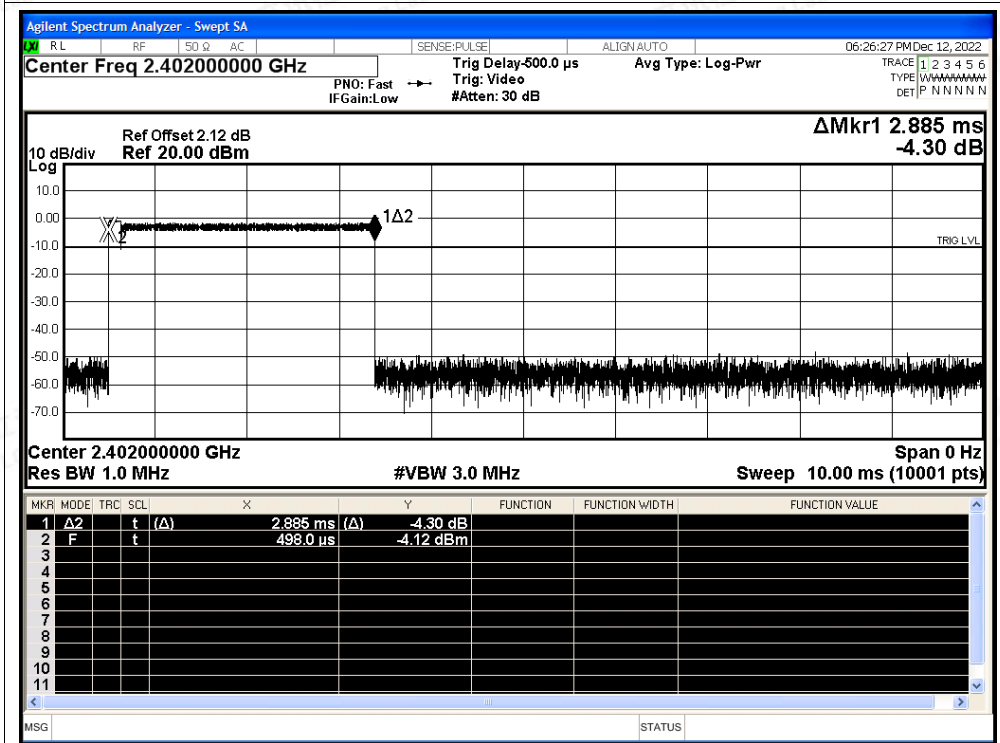


Dwell NVNT 1-DH5 2402MHz Ant0 Accumulated

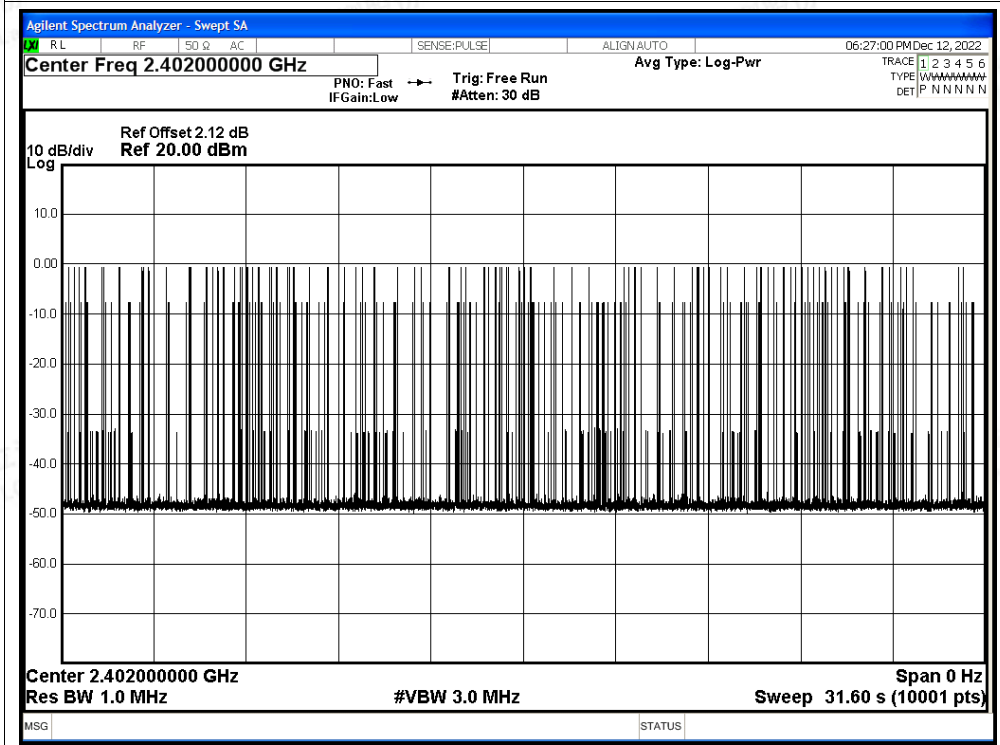




Dwell NVNT 2-DH5 2402MHz Ant0 One Burst

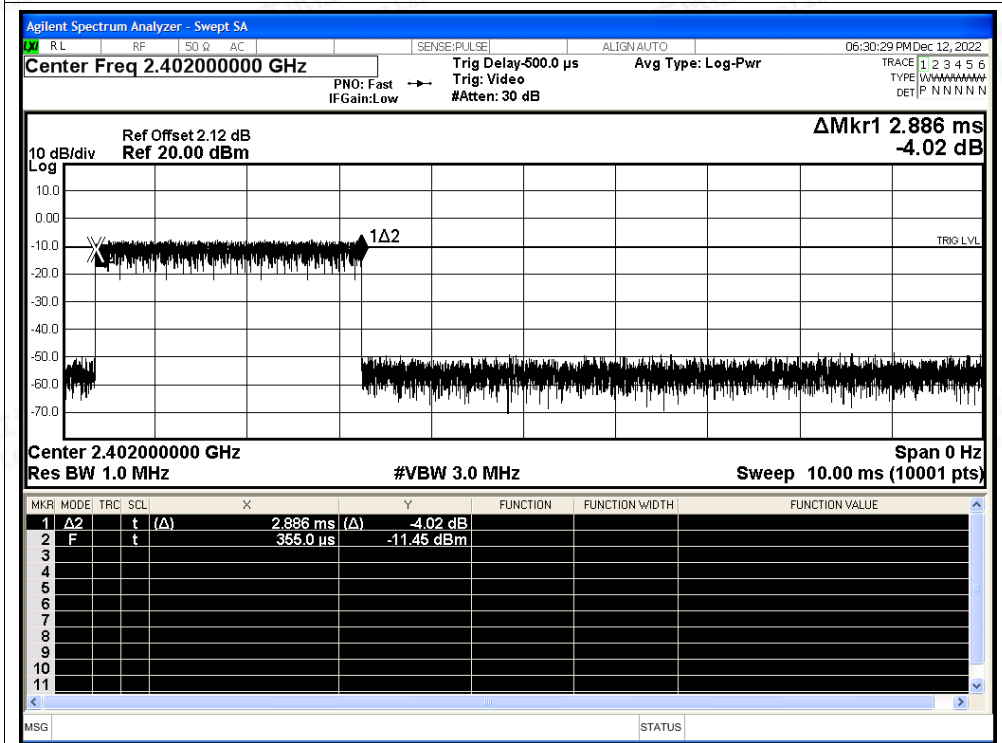


Dwell NVNT 2-DH5 2402MHz Ant0 Accumulated

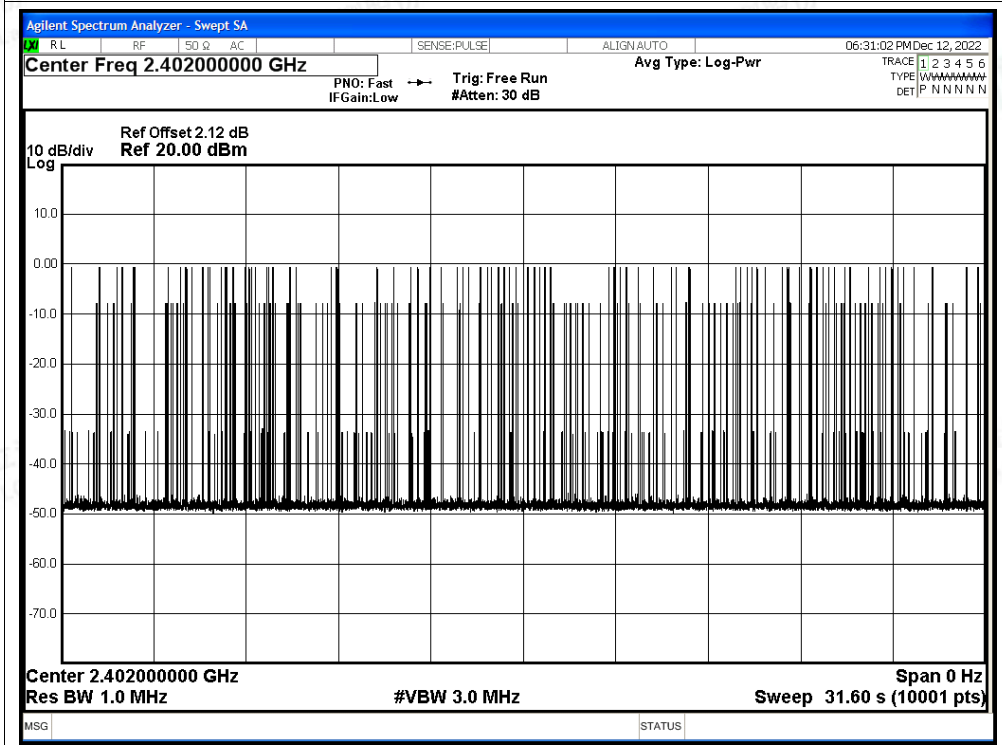




Dwell NVNT 3-DH5 2402MHz Ant0 One Burst



Dwell NVNT 3-DH5 2402MHz Ant0 Accumulated





A.5 Number of Hopping Channel

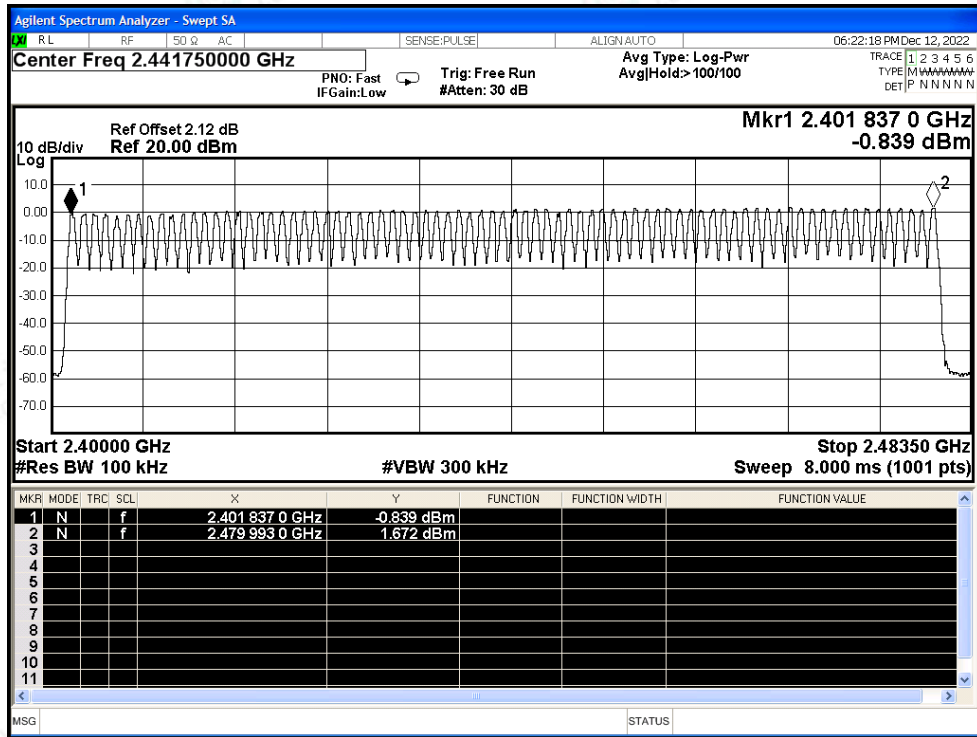
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant0	79	15	Pass
NVNT	2-DH5	Ant0	79	15	Pass
NVNT	3-DH5	Ant0	79	15	Pass



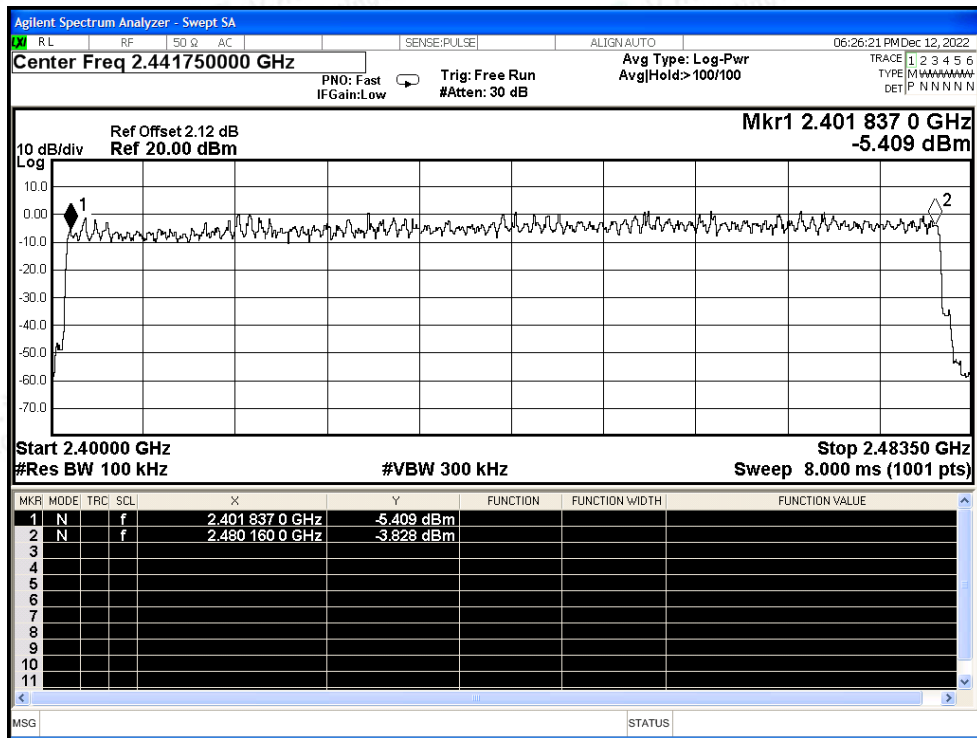


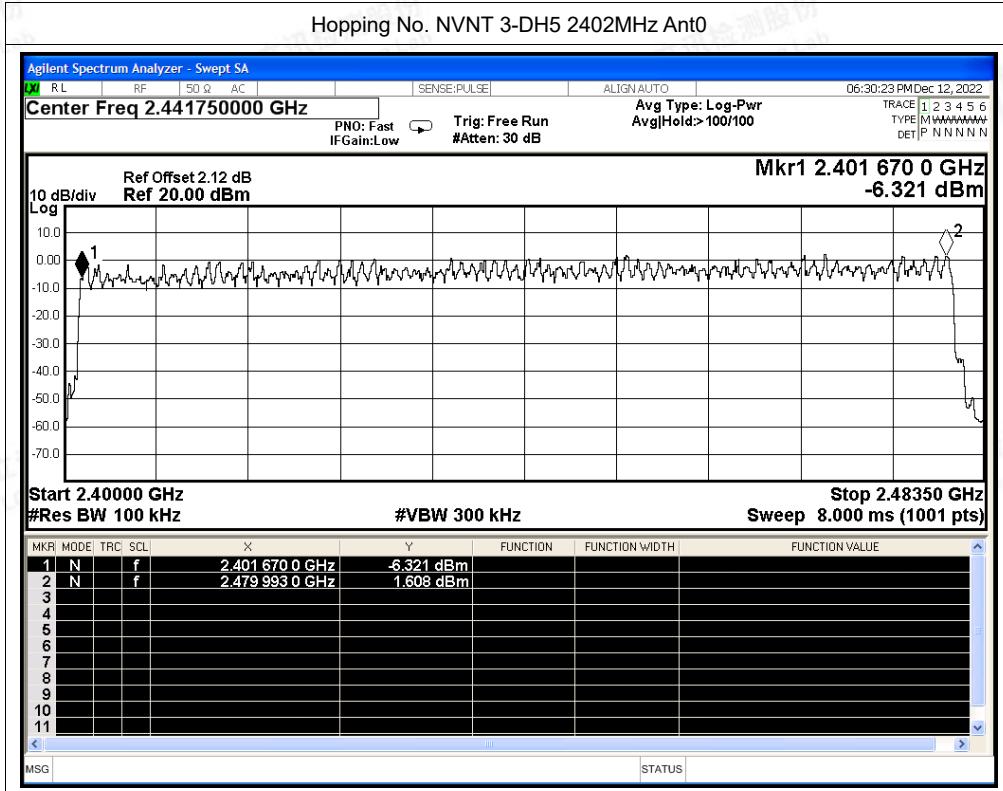
Test Graphs

Hopping No. NVNT 1-DH5 2402MHz Ant0



Hopping No. NVNT 2-DH5 2402MHz Ant0







A.6 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant0	No-Hopping	-56.35	-20	Pass
NVNT	1-DH5	2480	Ant0	No-Hopping	-57.79	-20	Pass
NVNT	2-DH5	2402	Ant0	No-Hopping	-54.88	-20	Pass
NVNT	2-DH5	2480	Ant0	No-Hopping	-59.22	-20	Pass
NVNT	3-DH5	2402	Ant0	No-Hopping	-55.71	-20	Pass
NVNT	3-DH5	2480	Ant0	No-Hopping	-59.04	-20	Pass

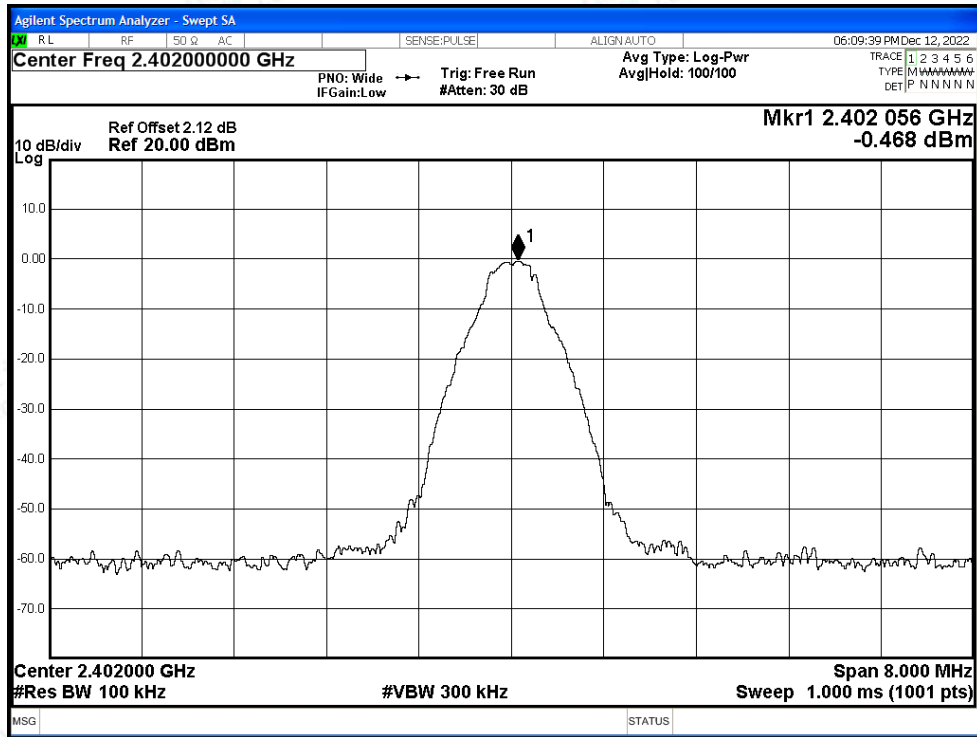


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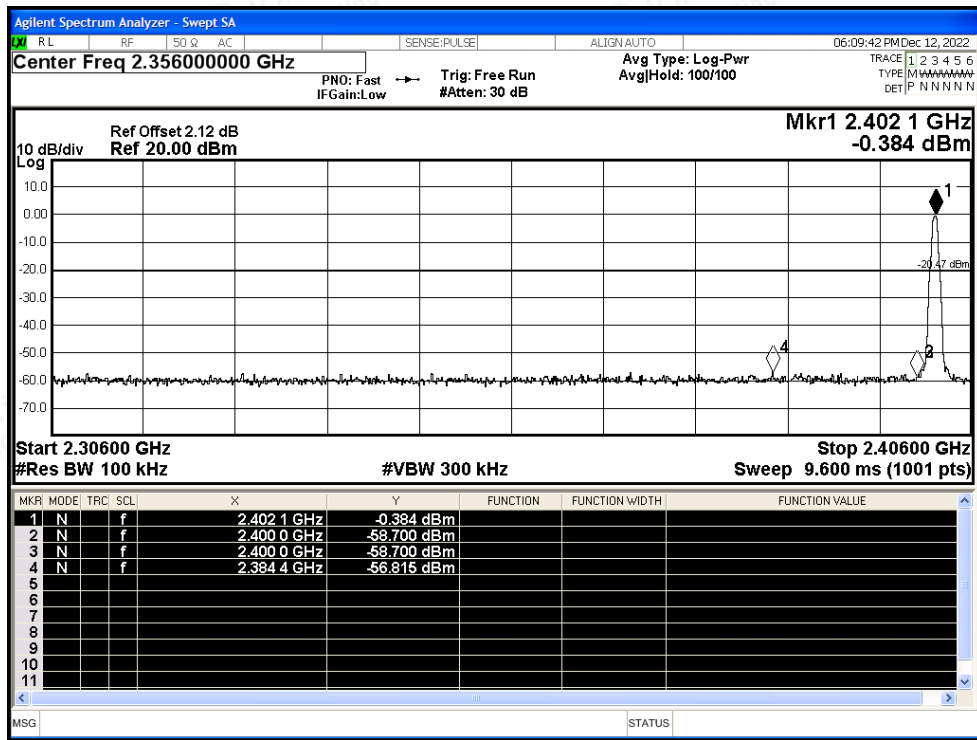


Test Graphs

Band Edge NVNT 1-DH5 2402MHz Ant0 No-Hopping Ref

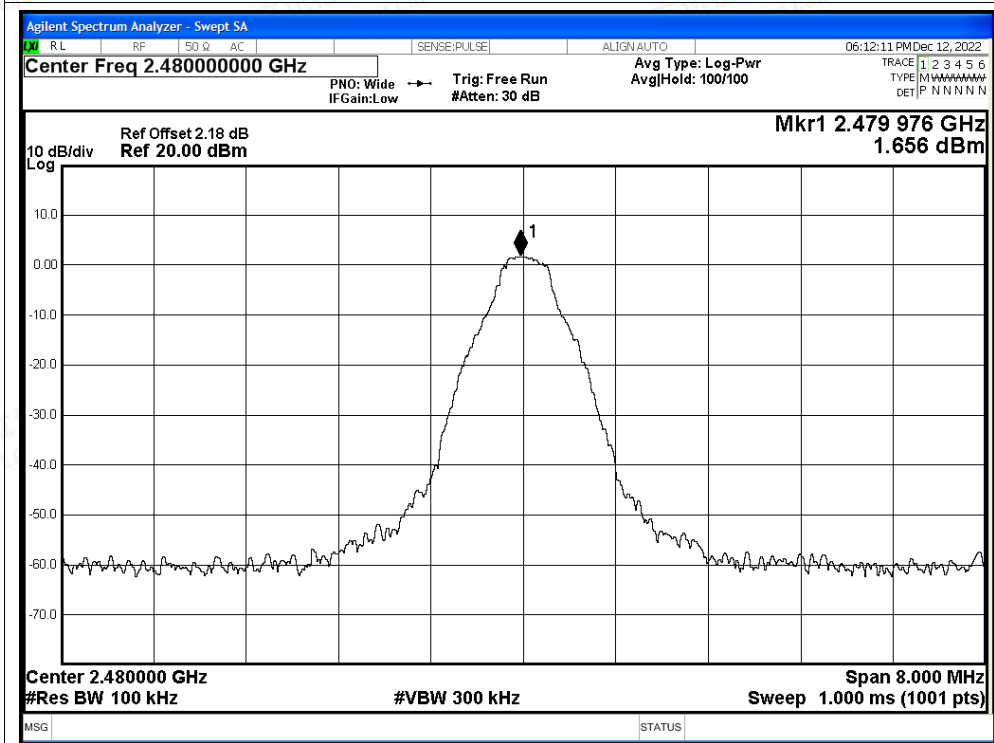


Band Edge NVNT 1-DH5 2402MHz Ant0 No-Hopping Emission

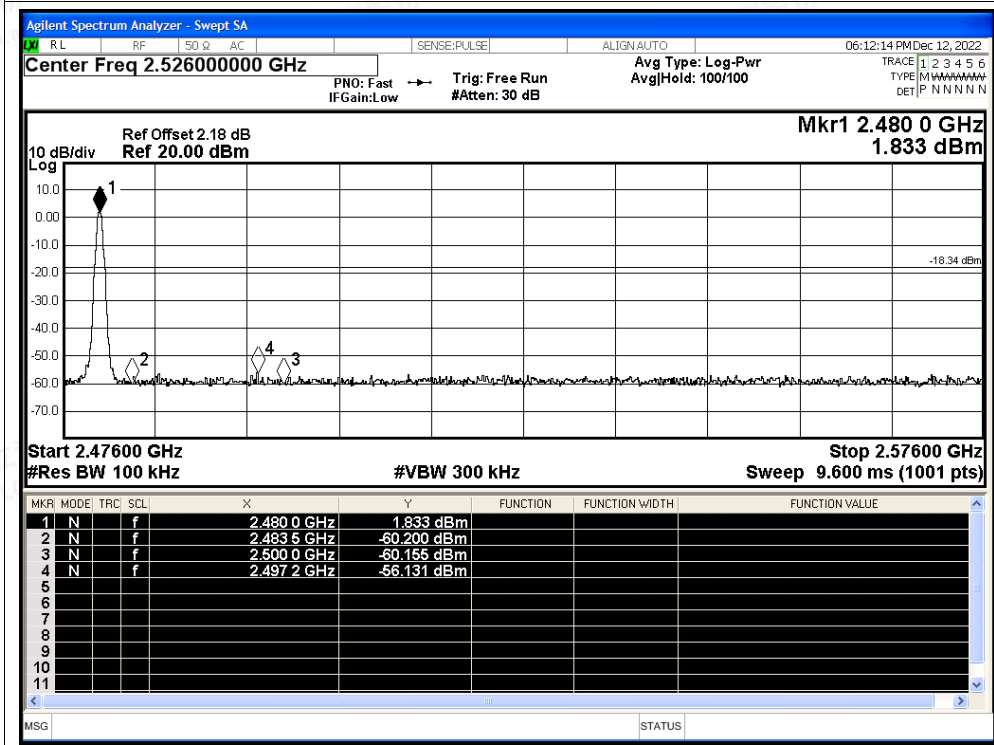




Band Edge NVNT 1-DH5 2480MHz Ant0 No-Hopping Ref

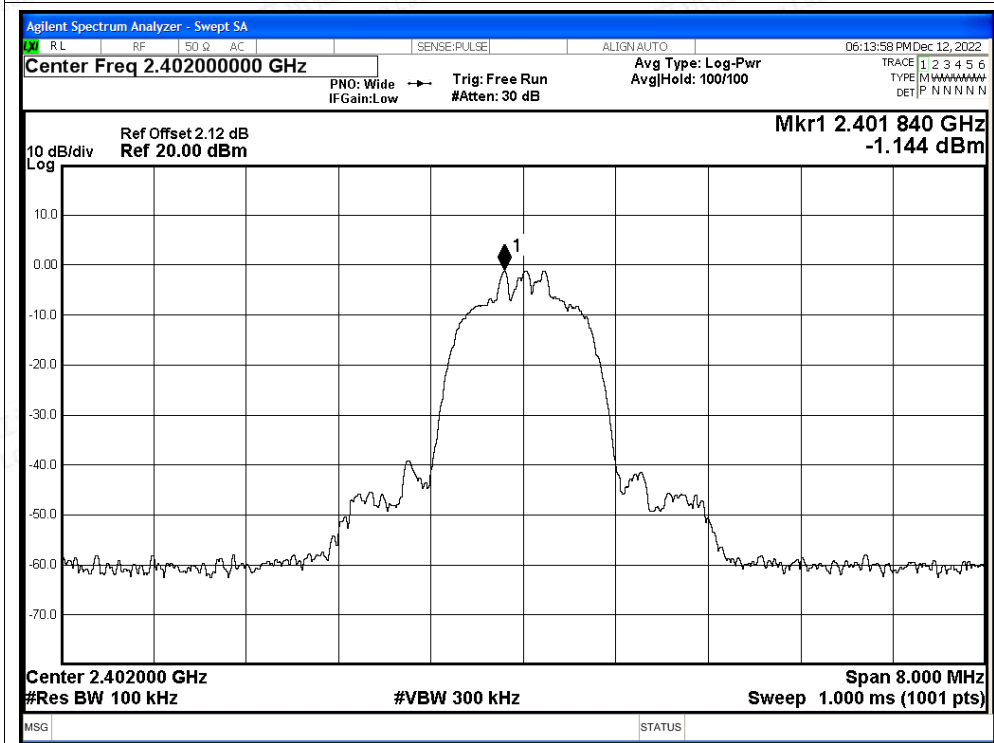


Band Edge NVNT 1-DH5 2480MHz Ant0 No-Hopping Emission

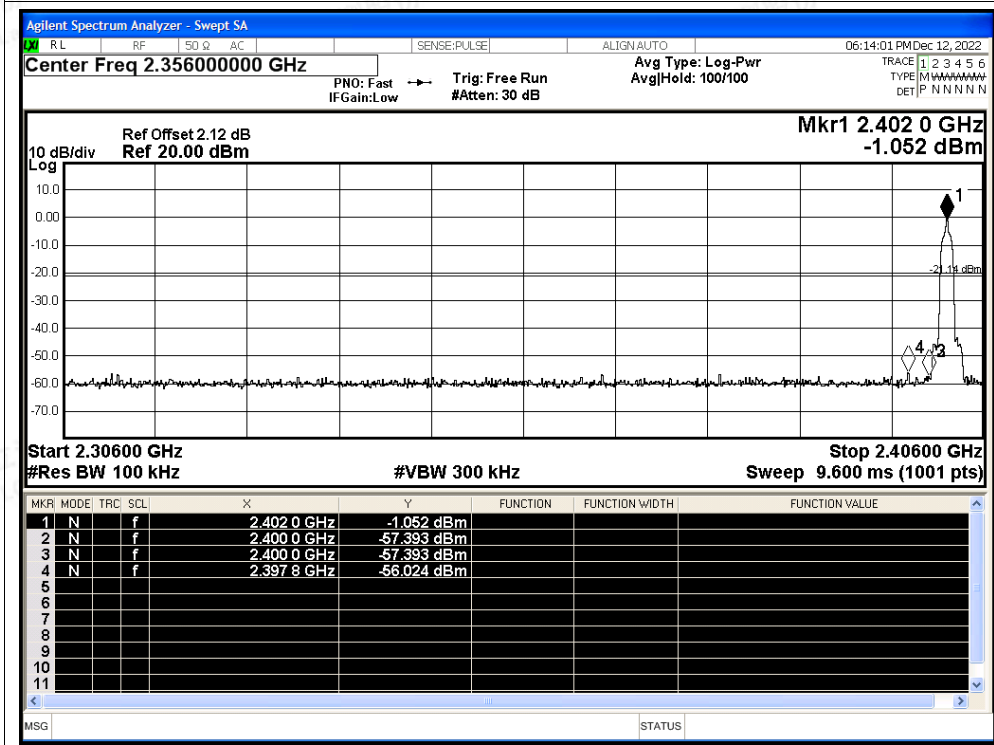




Band Edge NVNT 2-DH5 2402MHz Ant0 No-Hopping Ref

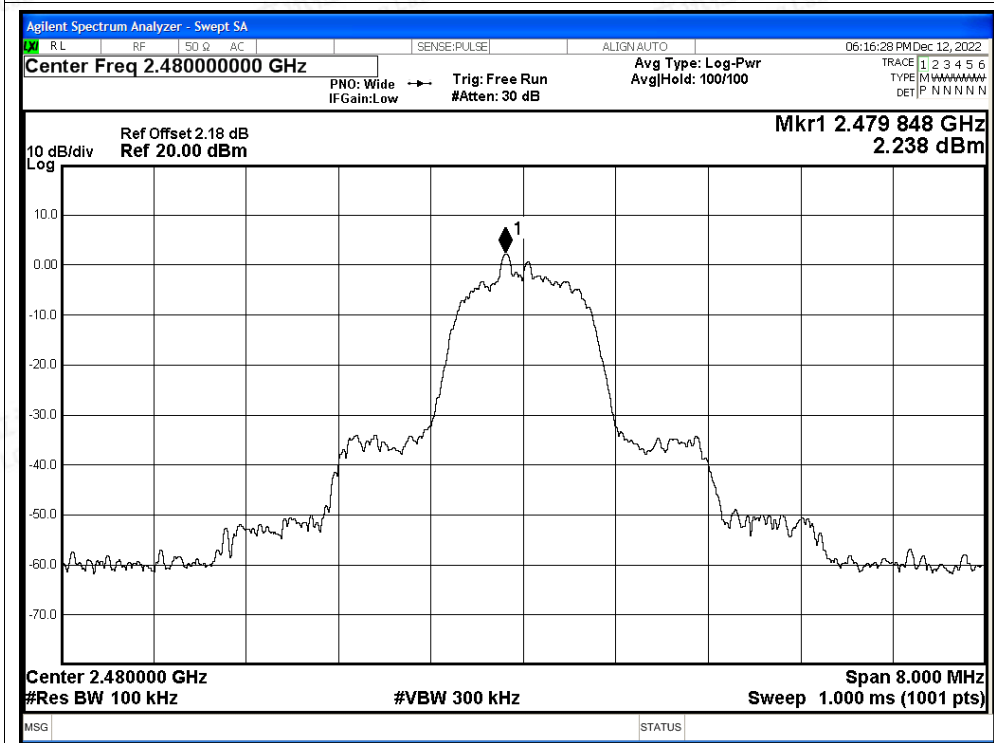


Band Edge NVNT 2-DH5 2402MHz Ant0 No-Hopping Emission

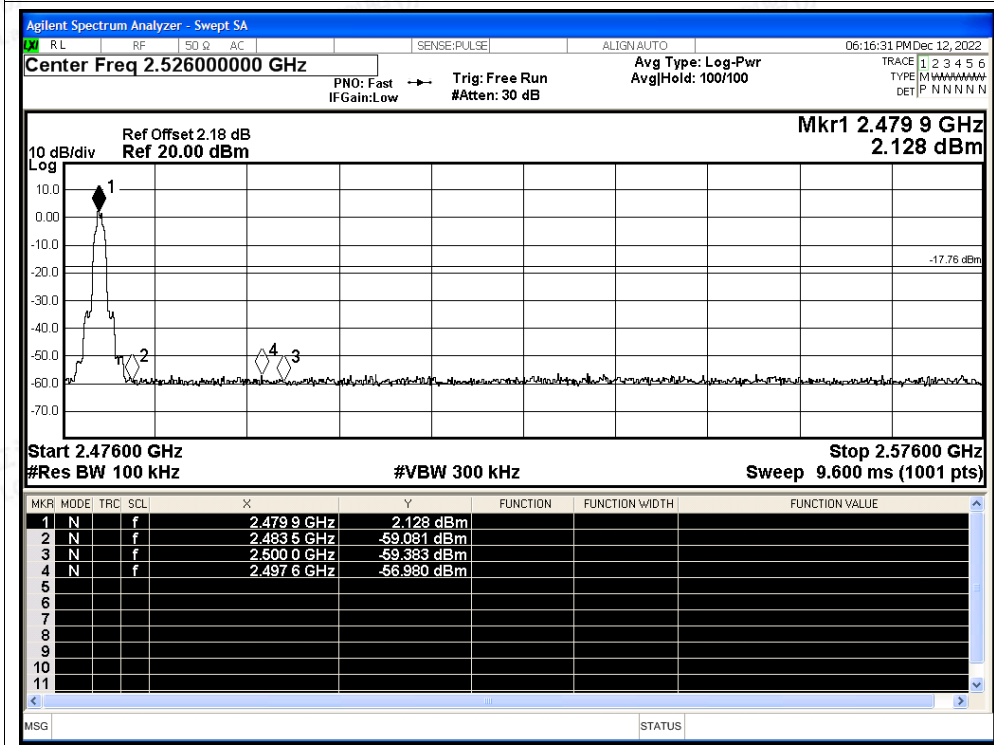




Band Edge NVNT 2-DH5 2480MHz Ant0 No-Hopping Ref

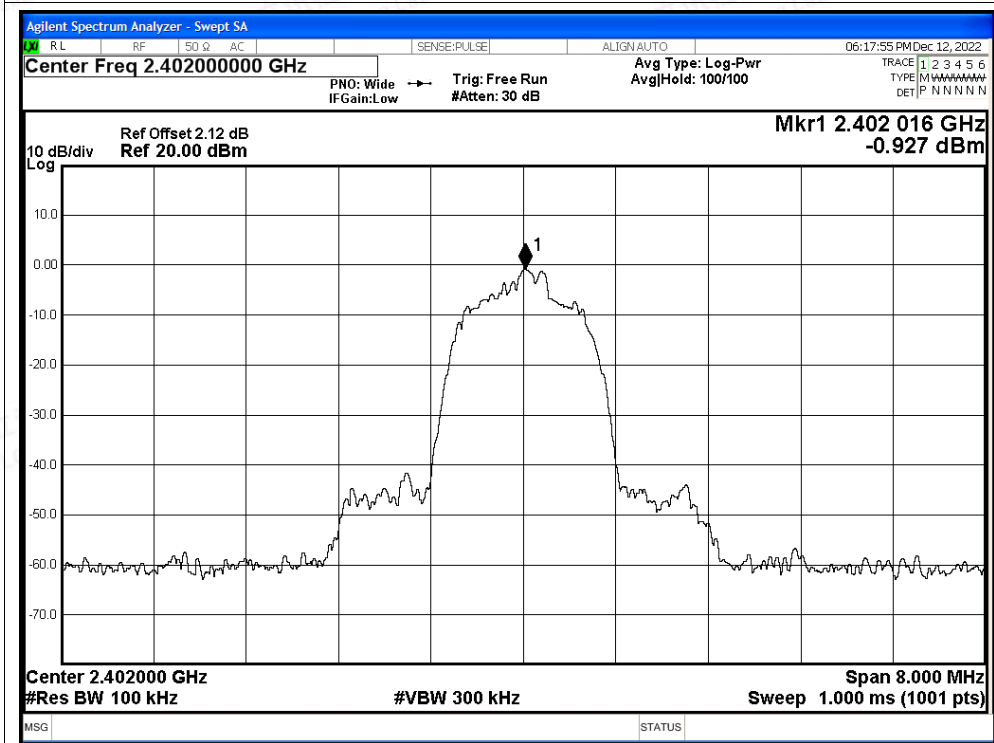


Band Edge NVNT 2-DH5 2480MHz Ant0 No-Hopping Emission

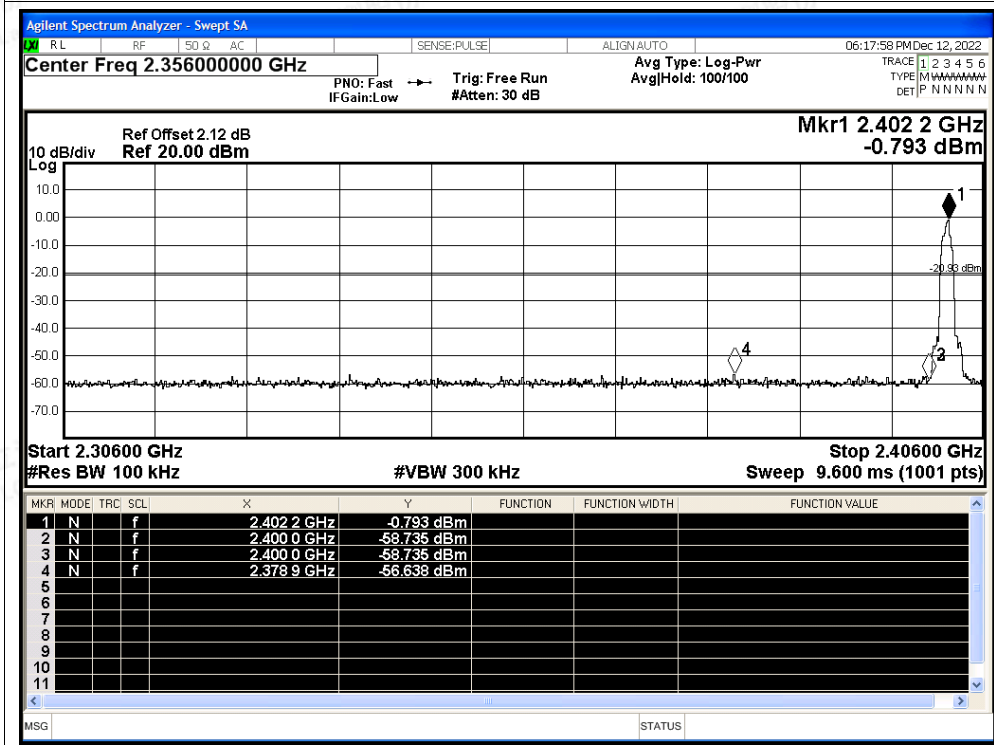




Band Edge NVNT 3-DH5 2402MHz Ant0 No-Hopping Ref

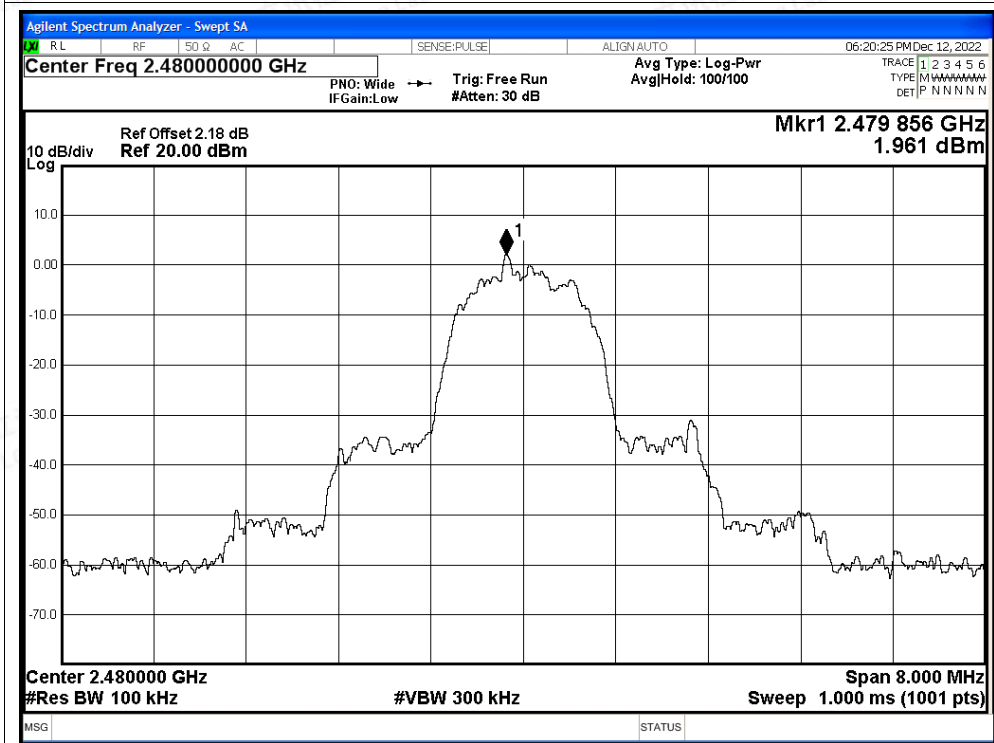


Band Edge NVNT 3-DH5 2402MHz Ant0 No-Hopping Emission

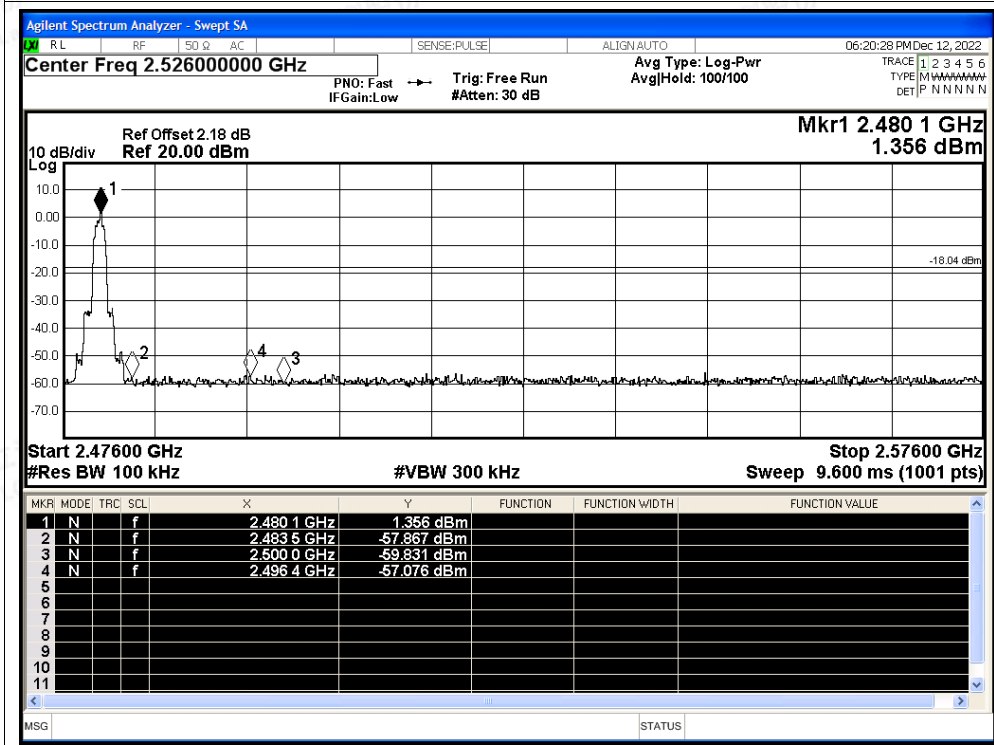




Band Edge NVNT 3-DH5 2480MHz Ant0 No-Hopping Ref



Band Edge NVNT 3-DH5 2480MHz Ant0 No-Hopping Emission





(Hopping)

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant0	Hopping	-54.72	-20	Pass
NVNT	1-DH5	2480	Ant0	Hopping	-57.78	-20	Pass
NVNT	2-DH5	2402	Ant0	Hopping	-53.68	-20	Pass
NVNT	2-DH5	2480	Ant0	Hopping	-57.26	-20	Pass
NVNT	3-DH5	2402	Ant0	Hopping	-54.24	-20	Pass
NVNT	3-DH5	2480	Ant0	Hopping	-57.65	-20	Pass

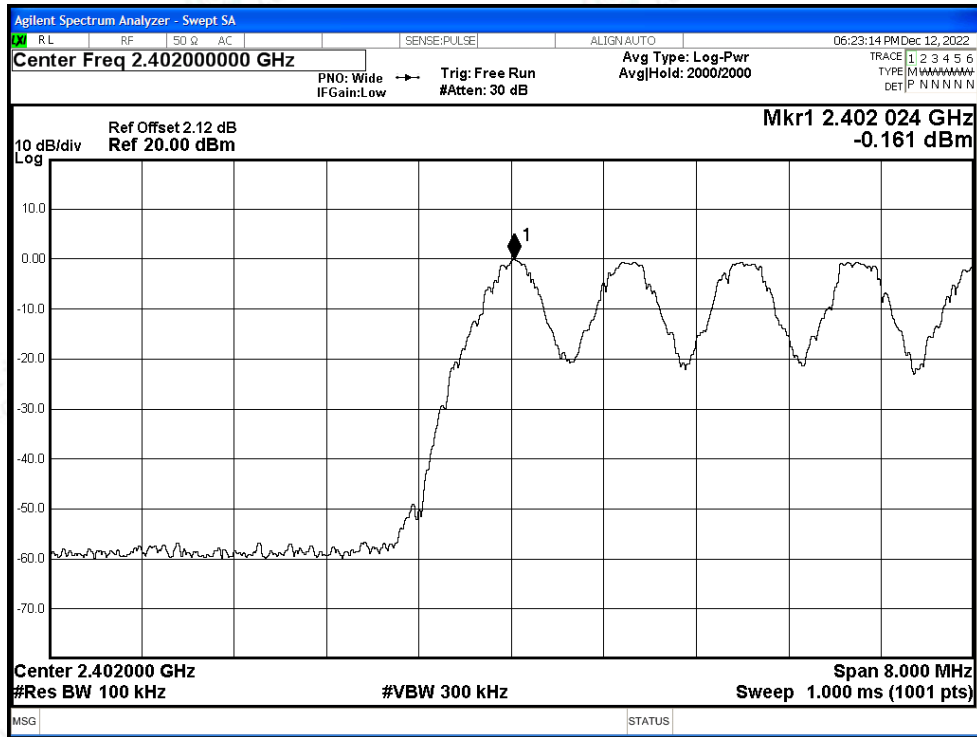


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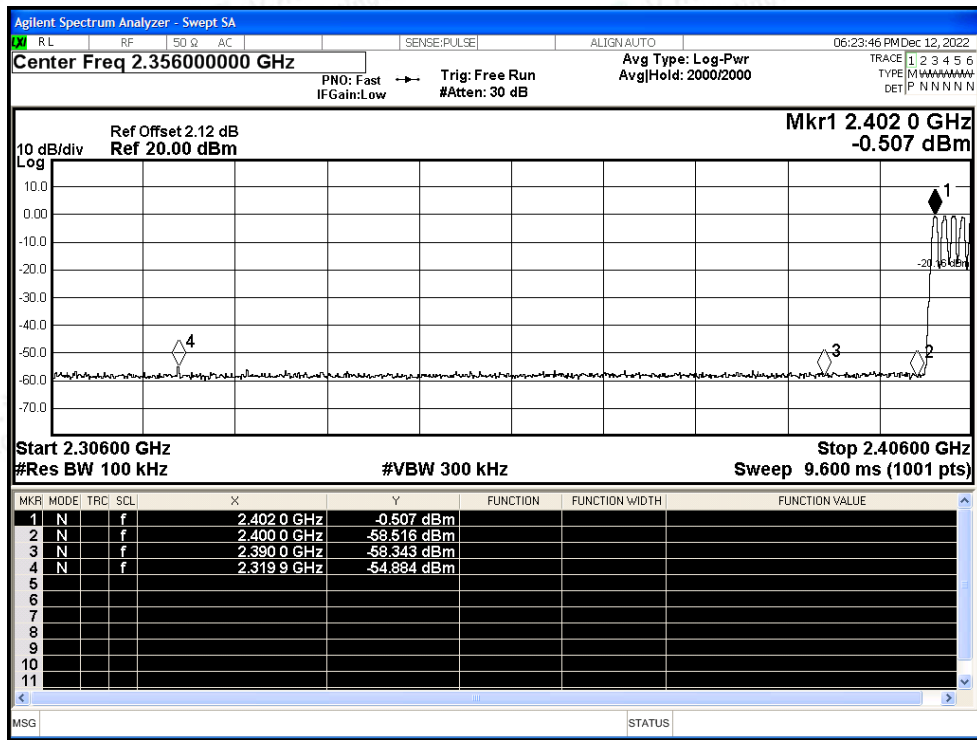


Test Graphs

Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant0 Hopping Ref

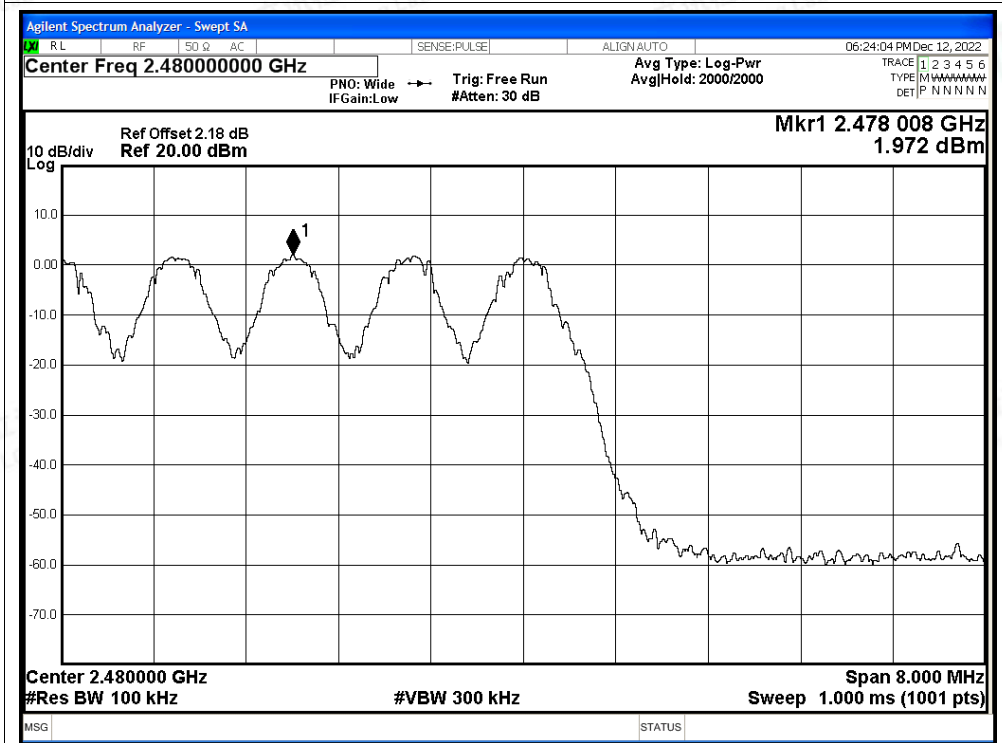


Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant0 Hopping Emission

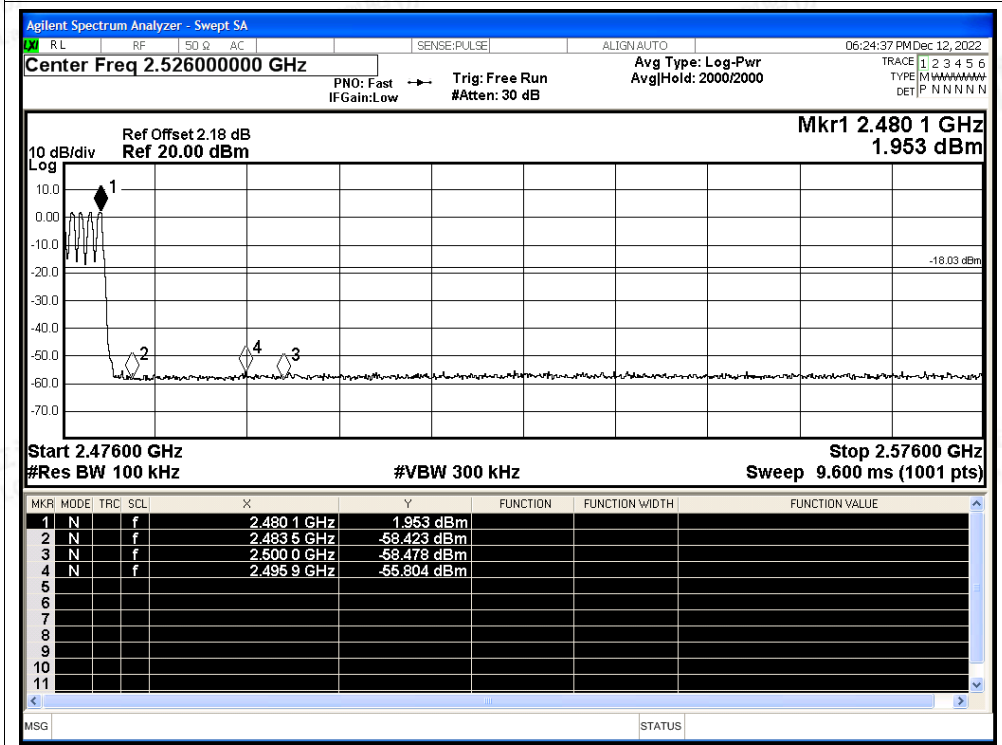




Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant0 Hopping Ref



Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant0 Hopping Emission

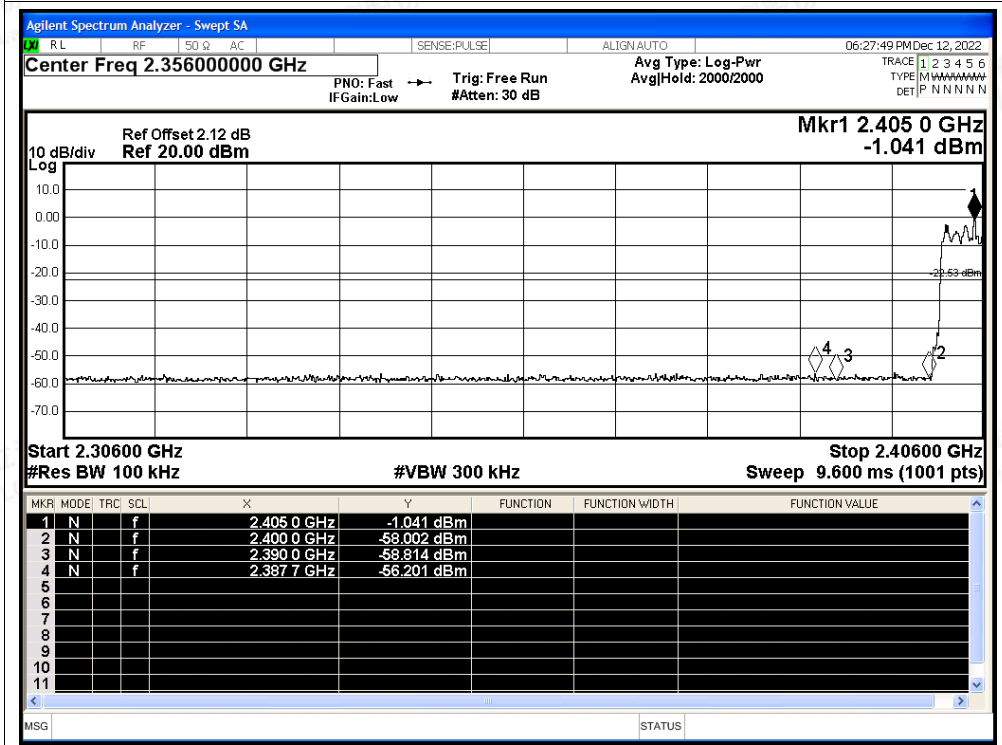




Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant0 Hopping Ref



Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant0 Hopping Emission

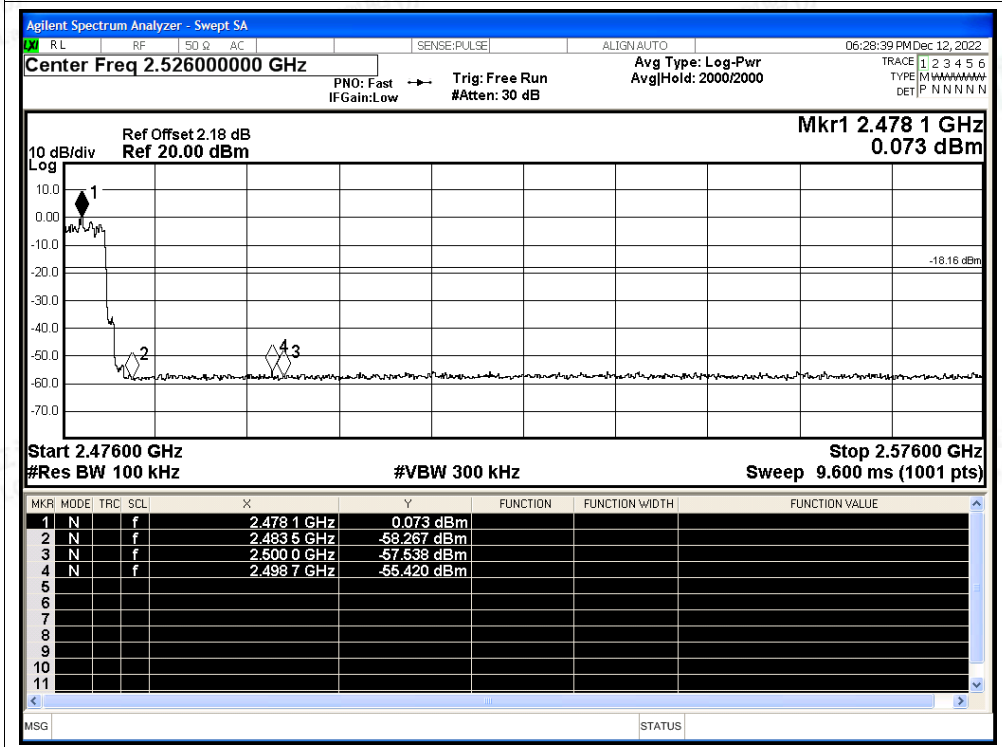




Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant0 Hopping Ref

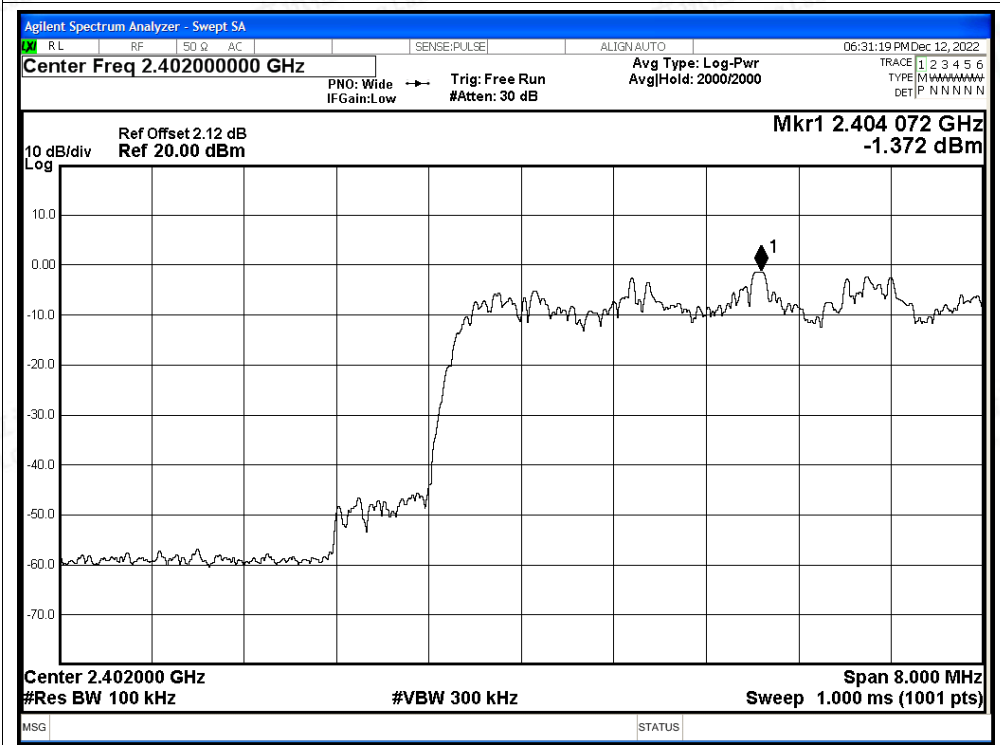


Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant0 Hopping Emission

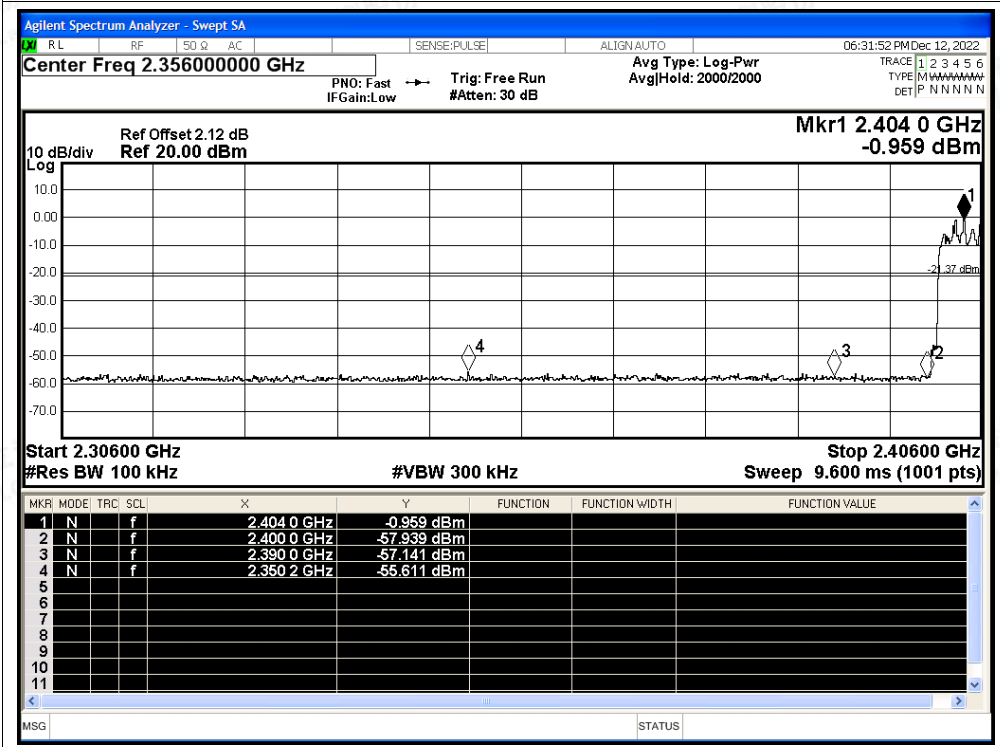




Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant0 Hopping Ref

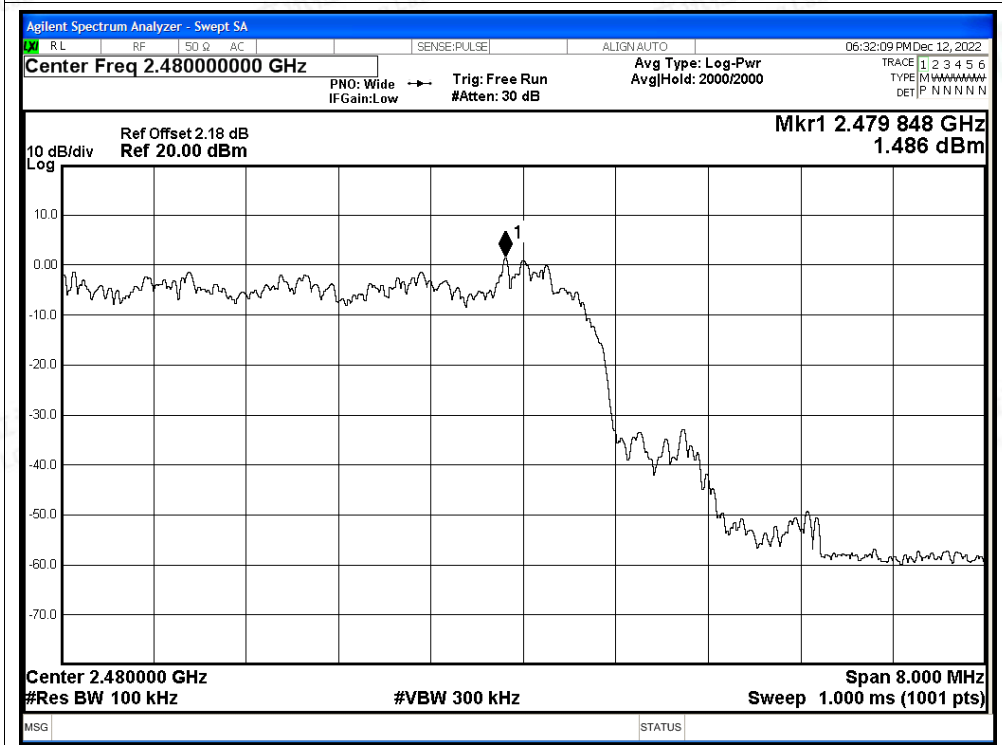


Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant0 Hopping Emission

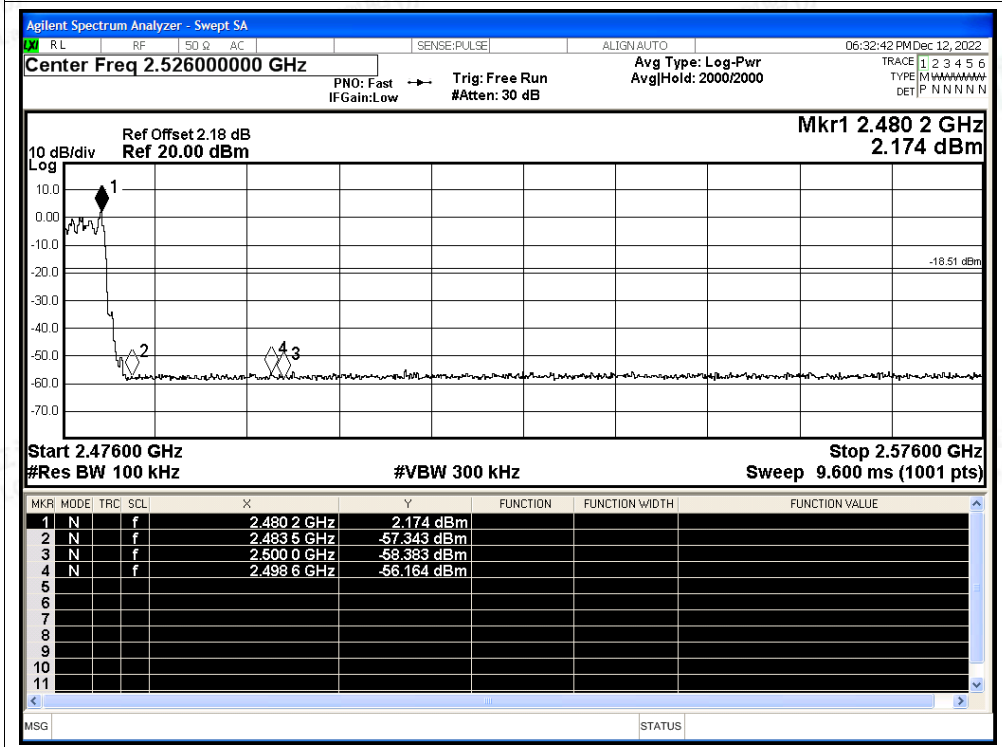




Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant0 Hopping Ref



Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant0 Hopping Emission





A.7 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant0	-55.28	-20	Pass
NVNT	1-DH5	2441	Ant0	-55.8	-20	Pass
NVNT	1-DH5	2480	Ant0	-57.71	-20	Pass
NVNT	2-DH5	2402	Ant0	-54.34	-20	Pass
NVNT	2-DH5	2441	Ant0	-54.92	-20	Pass
NVNT	2-DH5	2480	Ant0	-56.02	-20	Pass
NVNT	3-DH5	2402	Ant0	-54.51	-20	Pass
NVNT	3-DH5	2441	Ant0	-56.32	-20	Pass
NVNT	3-DH5	2480	Ant0	-57.21	-20	Pass

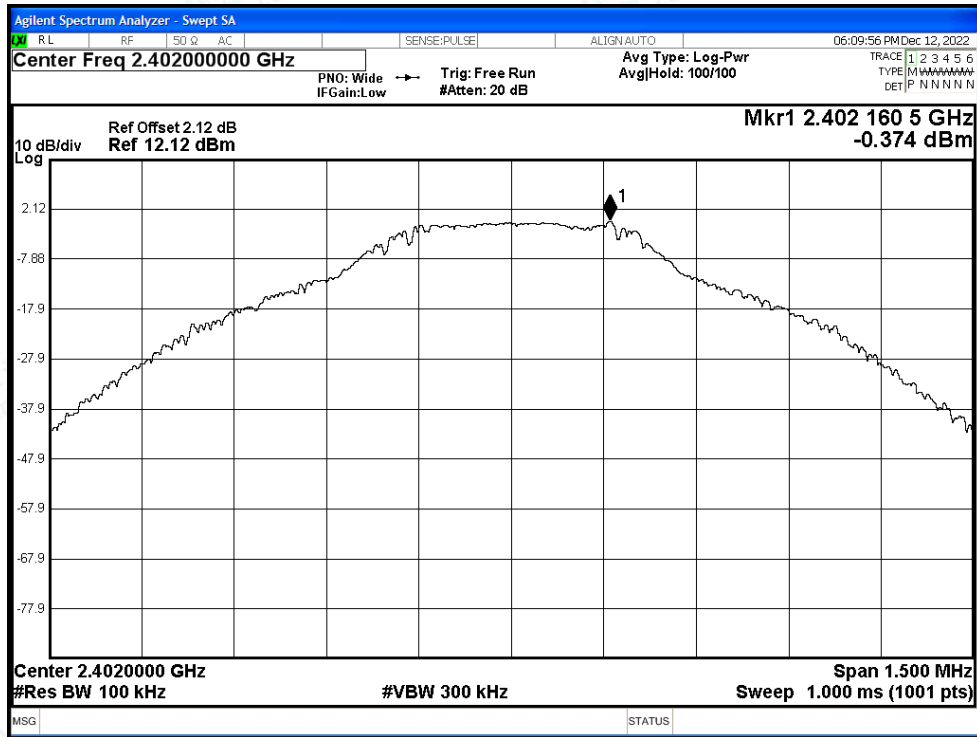


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Scan code to check authenticity

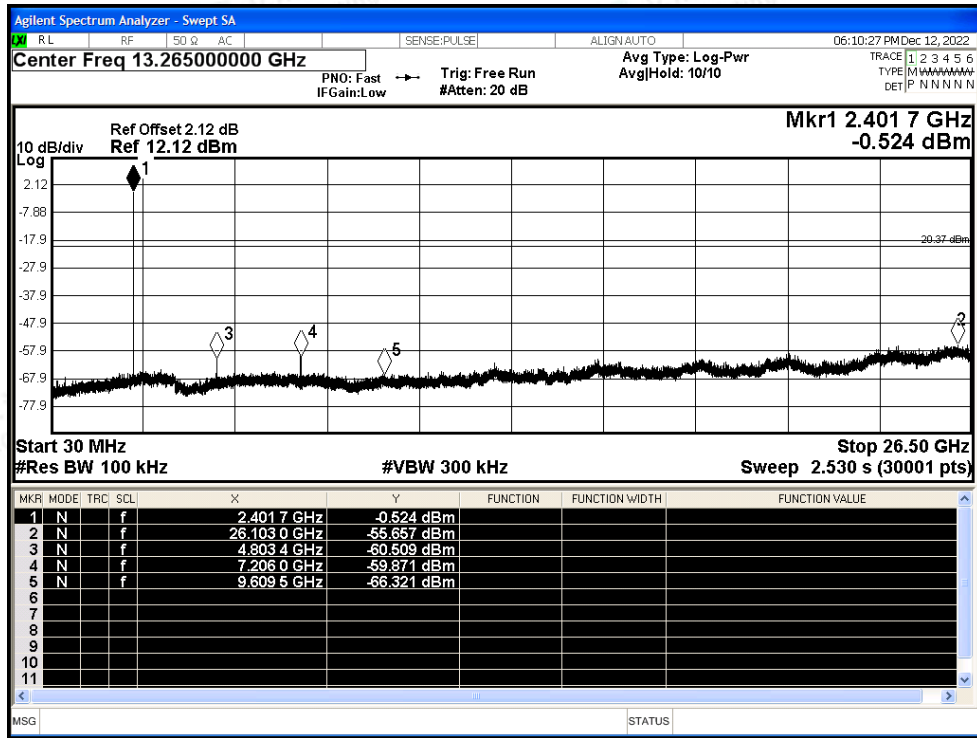


Test Graphs

Tx. Spurious NVNT 1-DH5 2402MHz Ant0 Ref

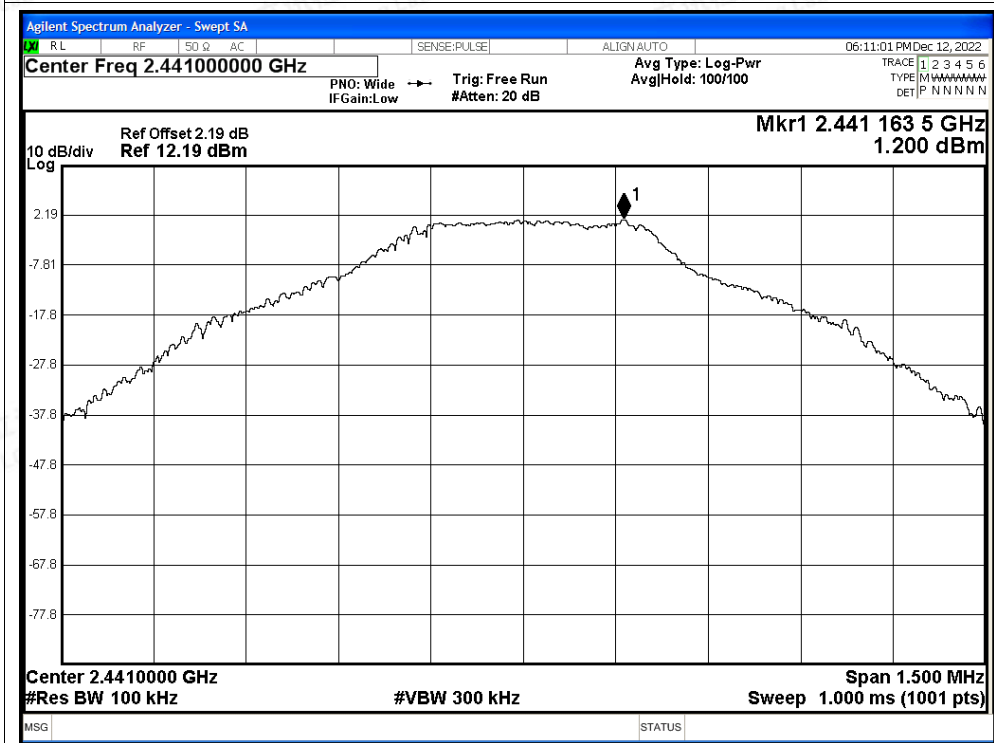


Tx. Spurious NVNT 1-DH5 2402MHz Ant0 Emission

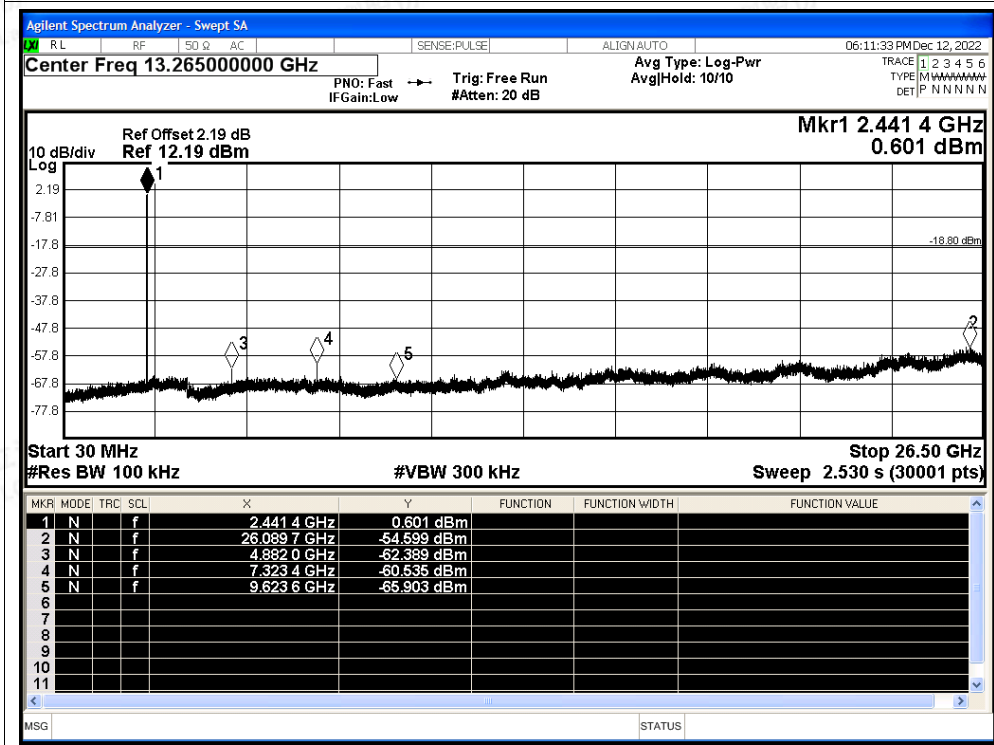




Tx. Spurious NVNT 1-DH5 2441MHz Ant0 Ref

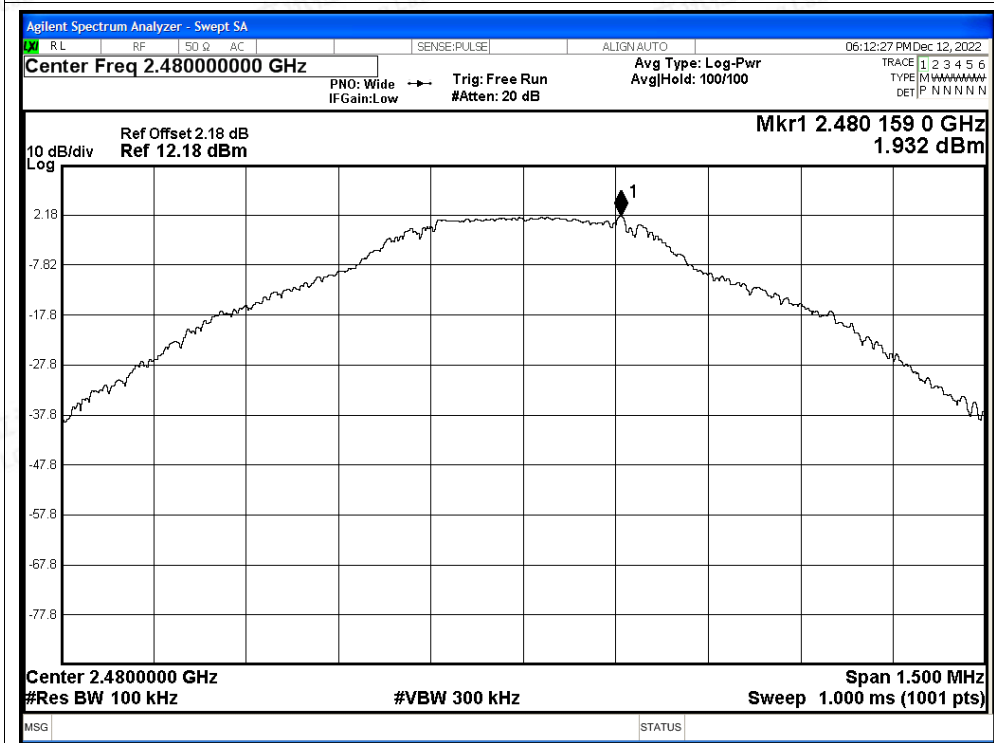


Tx. Spurious NVNT 1-DH5 2441MHz Ant0 Emission

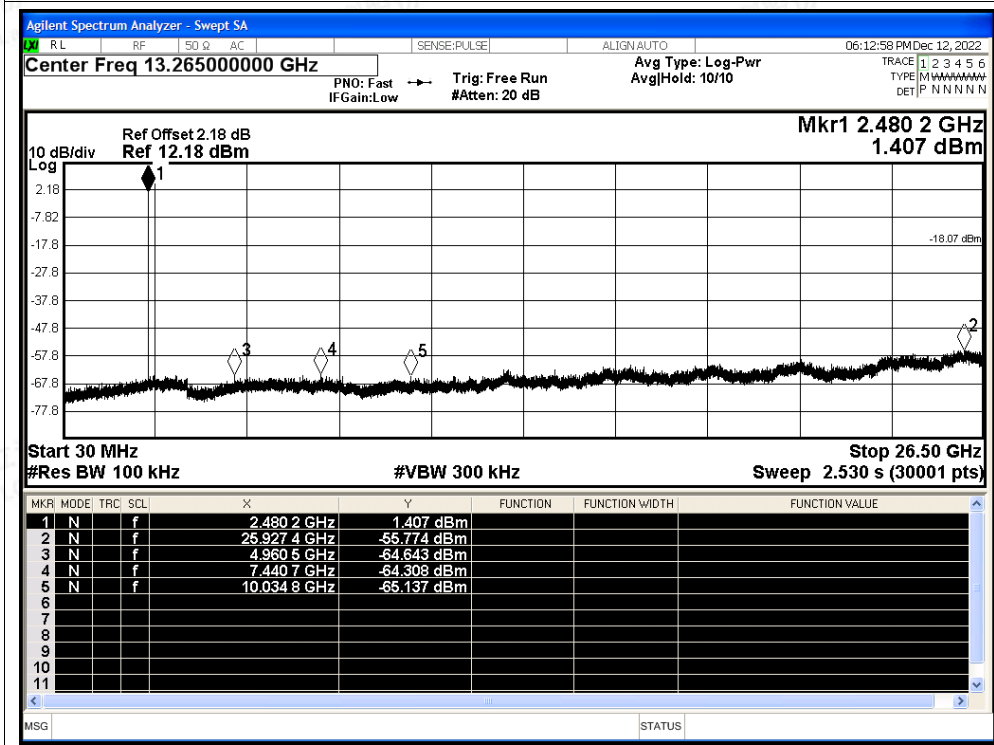




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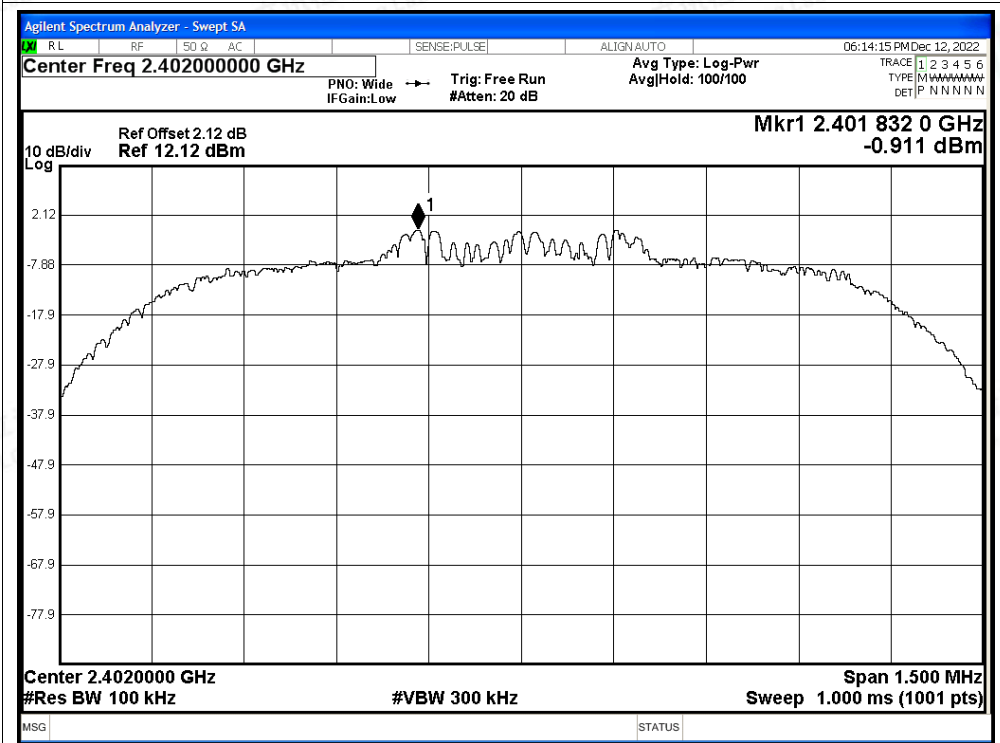


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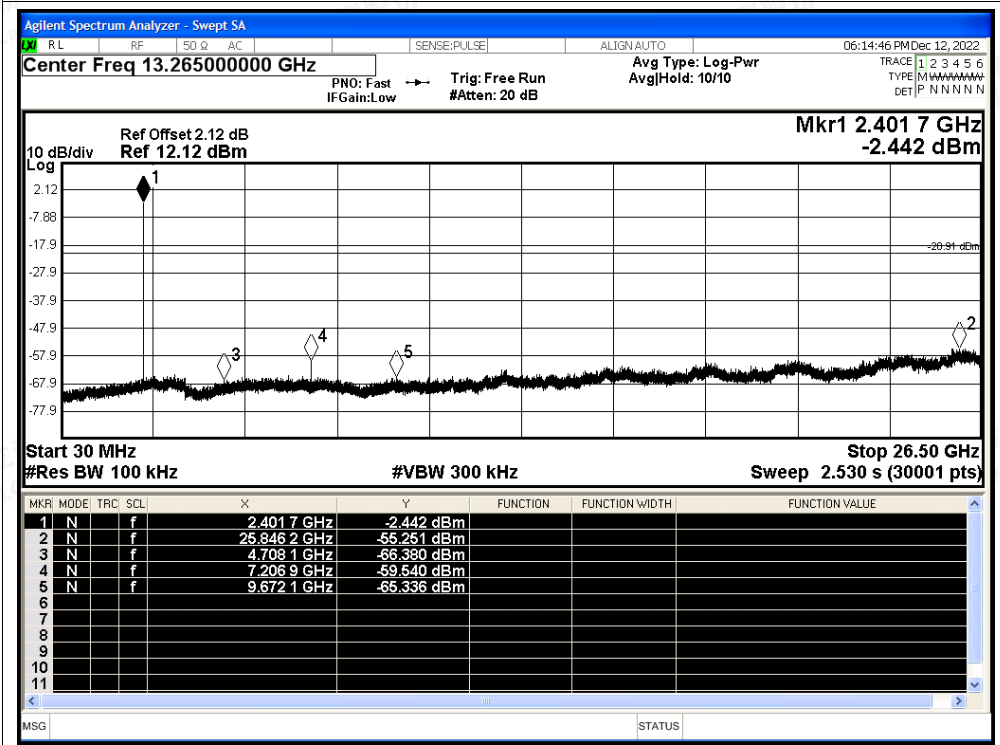




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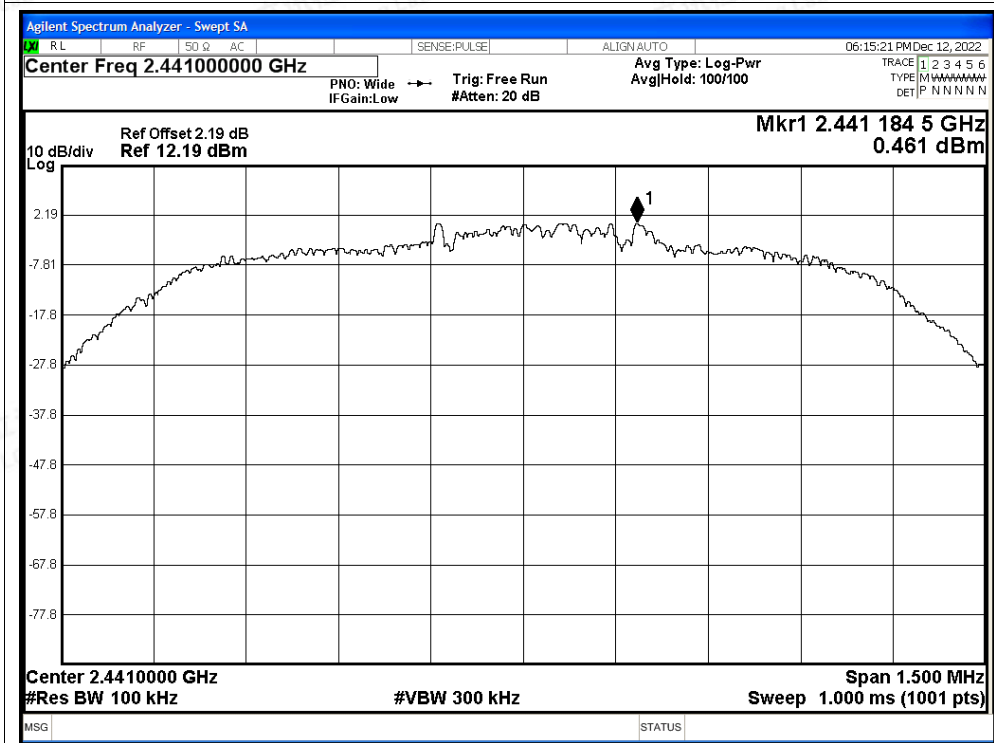


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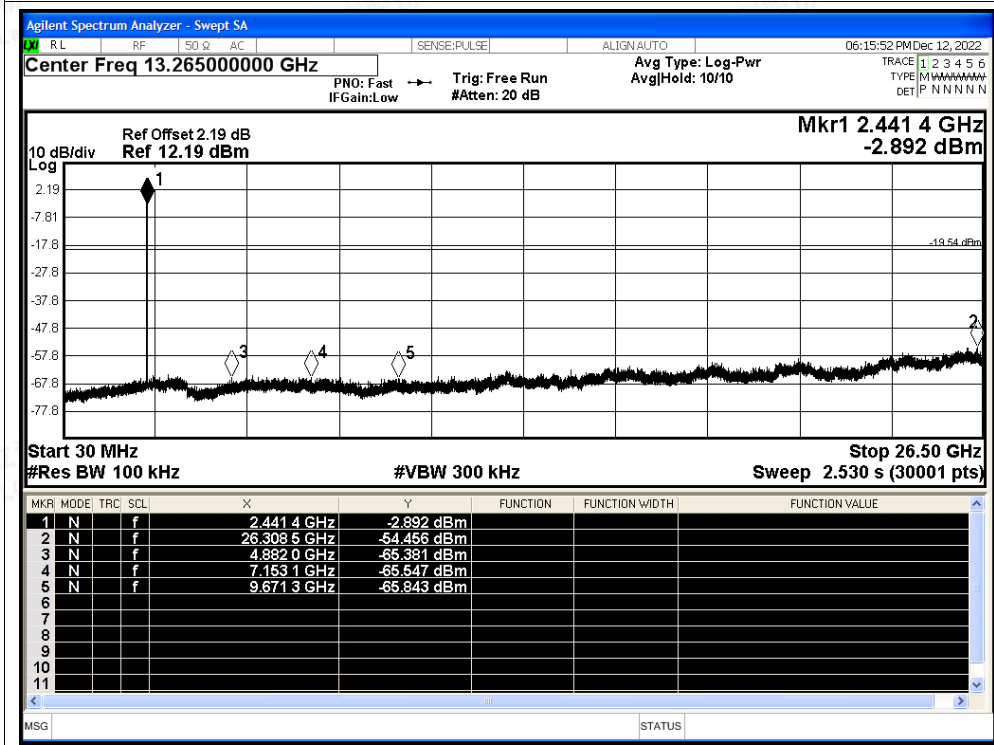




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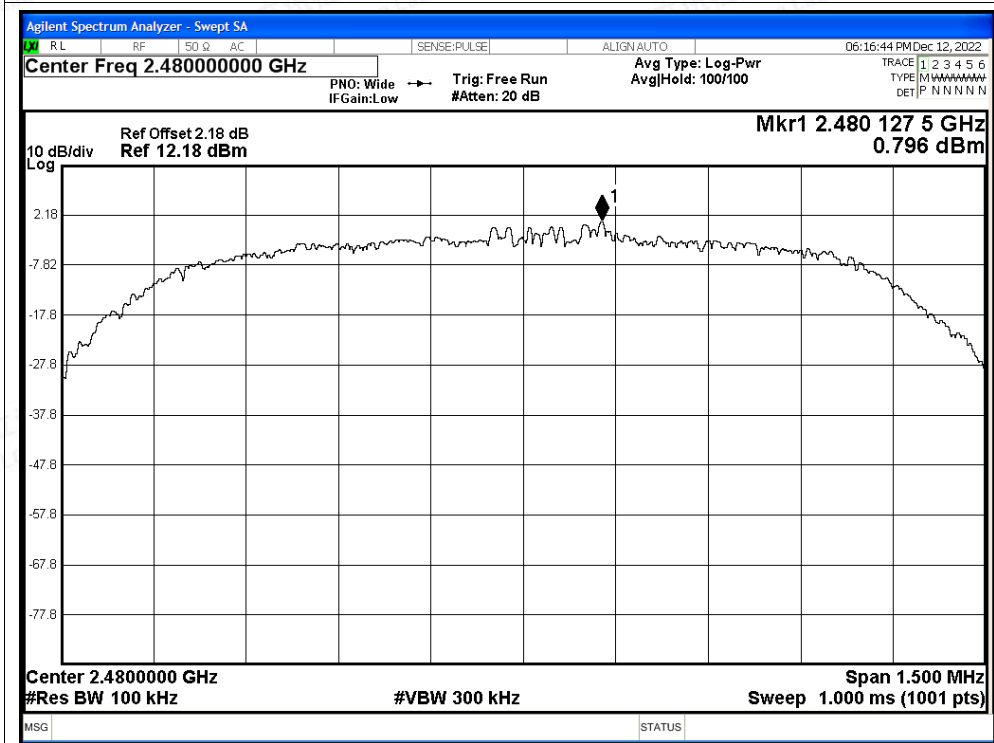


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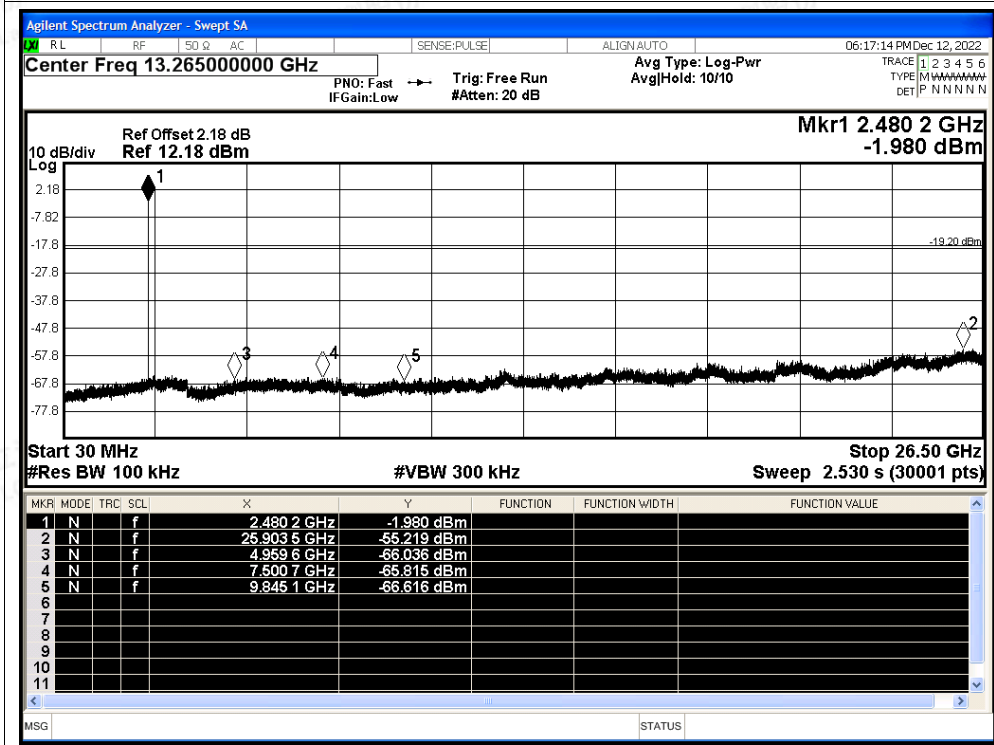




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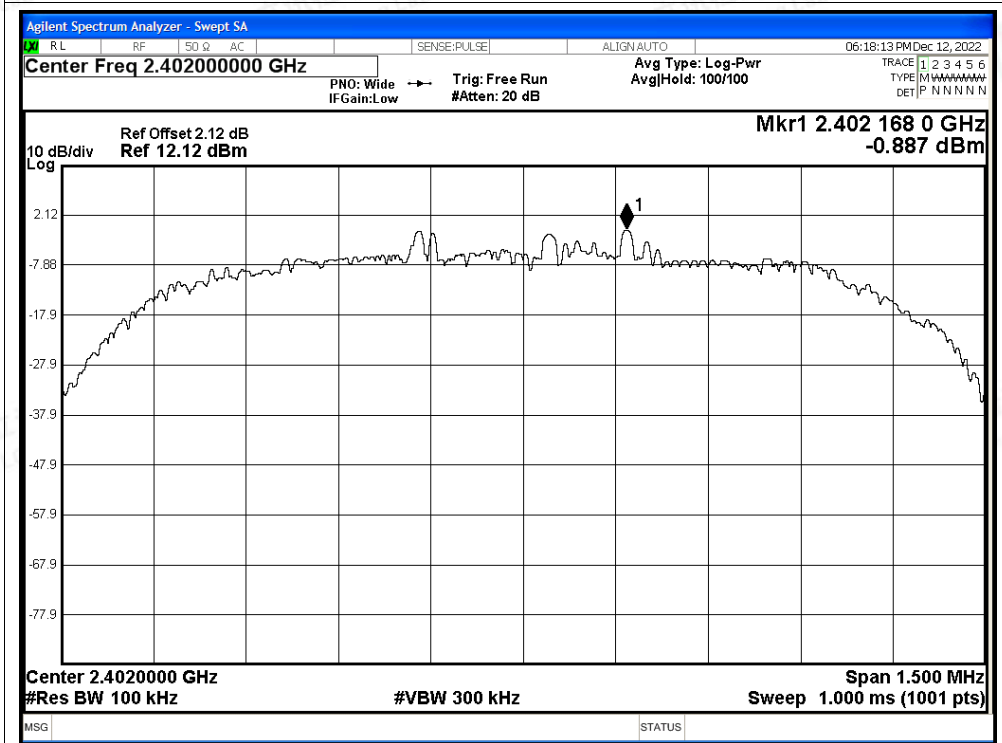


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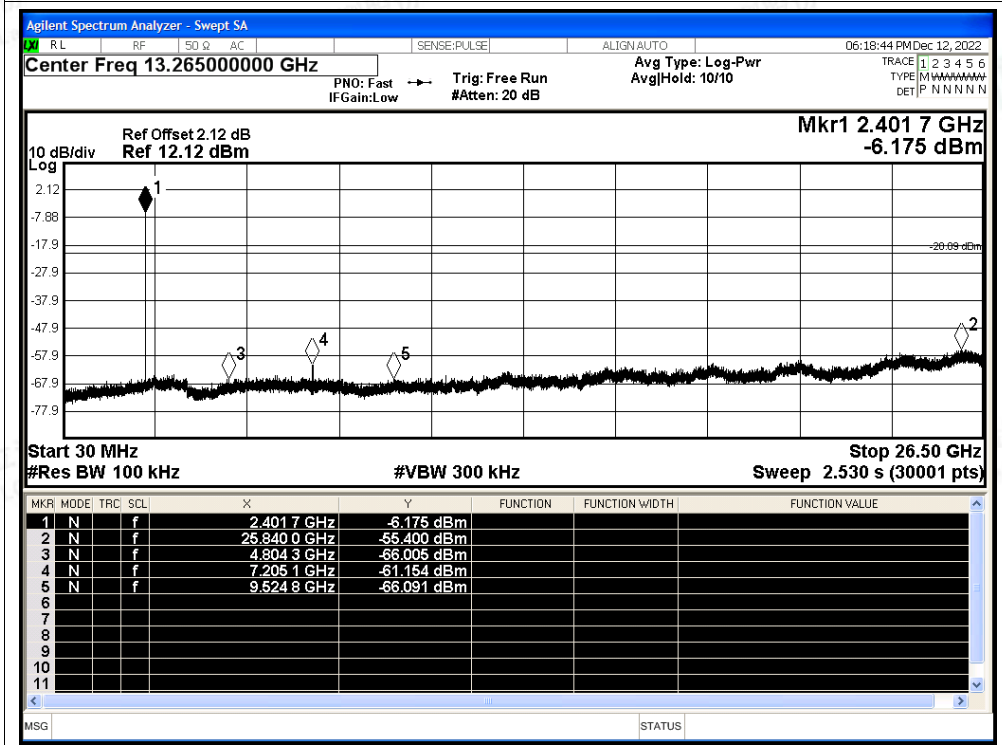




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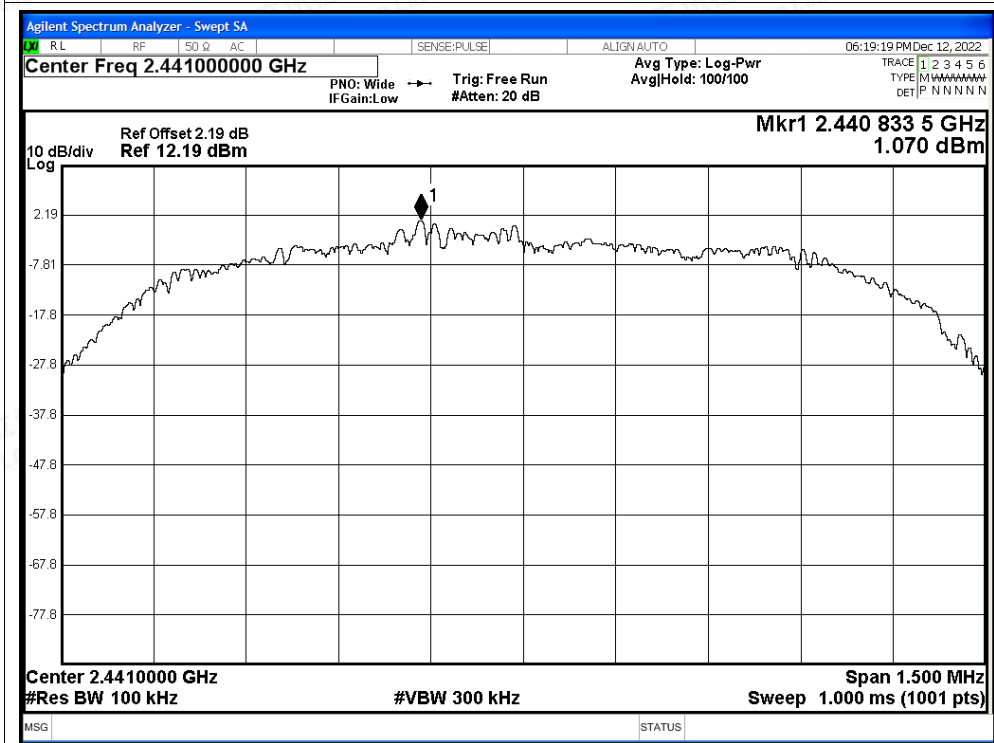


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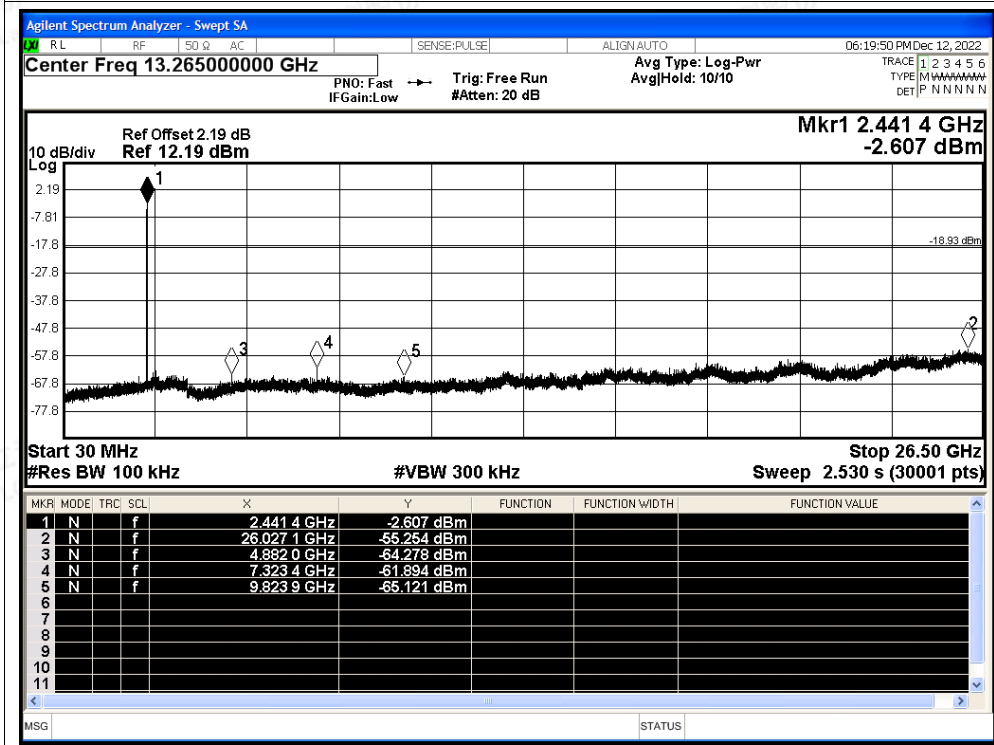




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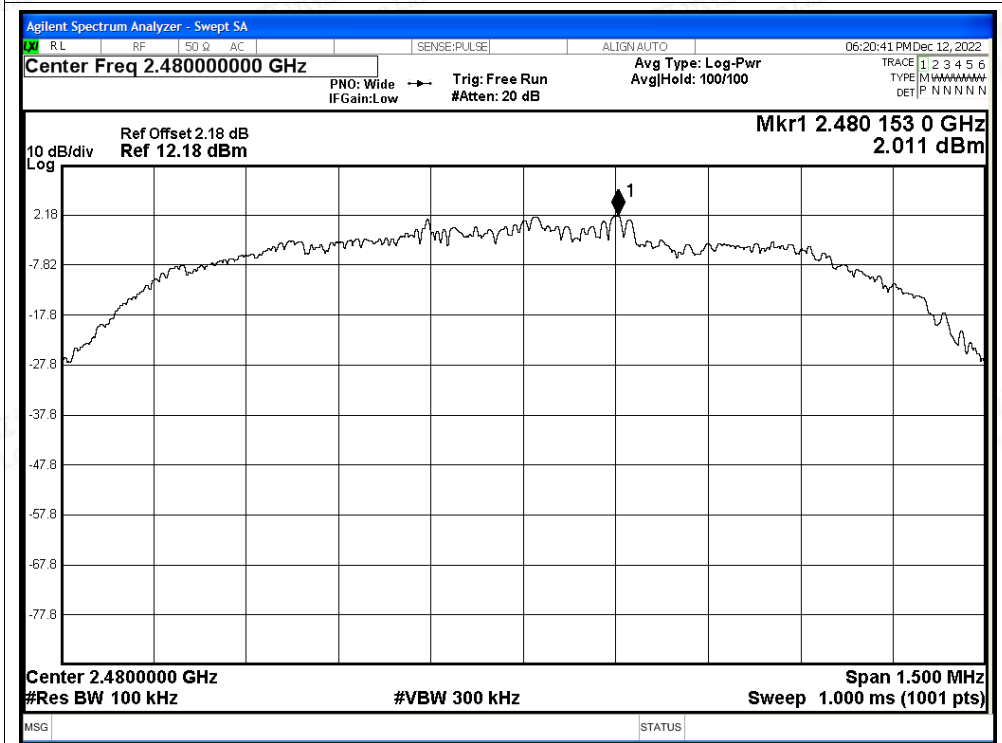


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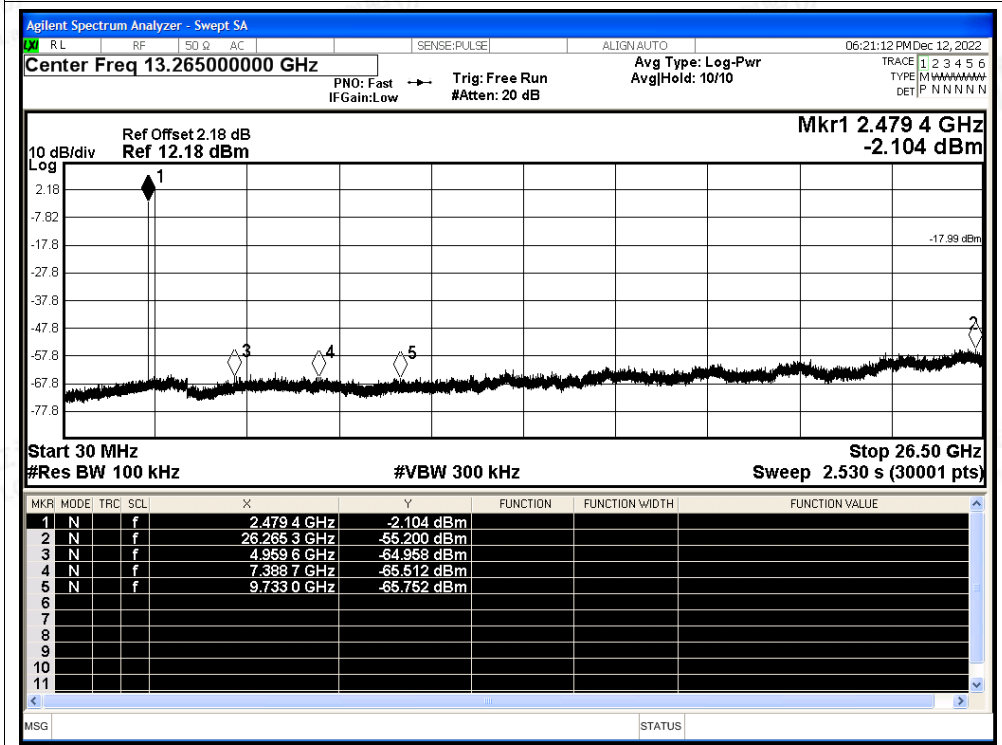




Tx. Spurious NVNT 3-DH5 2480MHz Ant0 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant0 Emission





A.8 Restrict Band

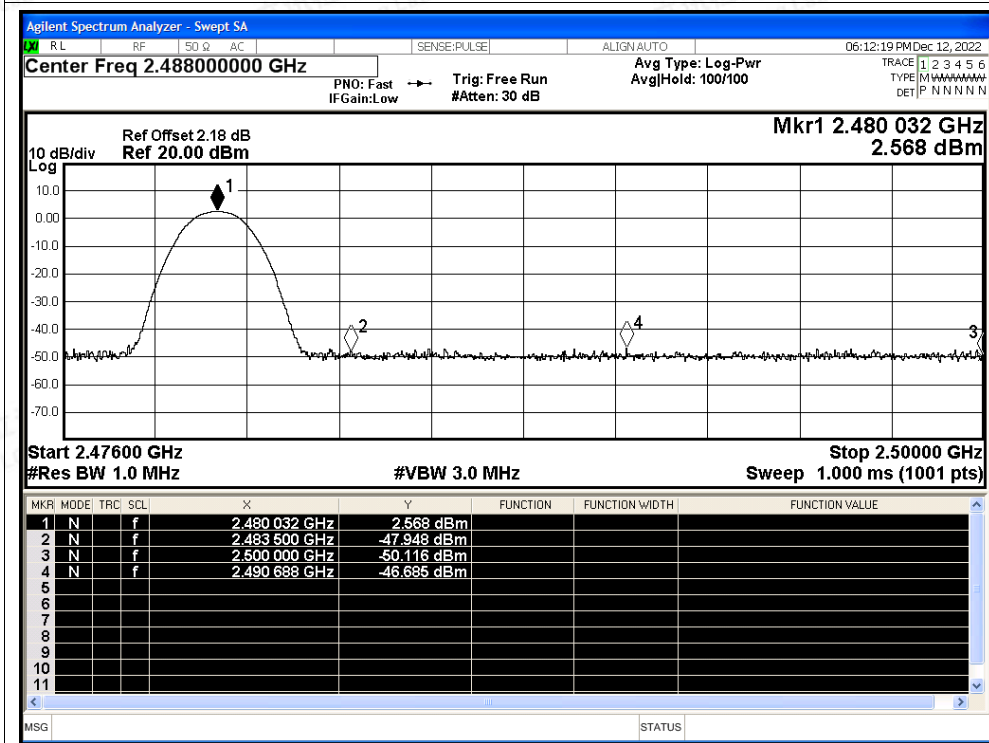
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant0	No-Hopping	2310	-51.54	2.45	46.17	Peak	74	Pass
NVNT	1-DH5	2402	Ant0	No-Hopping	2310	-60.26	2.45	37.45	Average	54	Pass
NVNT	1-DH5	2402	Ant0	No-Hopping	2353.392	-47.82	2.45	49.89	Peak	74	Pass
NVNT	1-DH5	2402	Ant0	No-Hopping	2388.528	-59.78	2.45	37.93	Average	54	Pass
NVNT	1-DH5	2402	Ant0	No-Hopping	2390	-50.88	2.45	46.83	Peak	74	Pass
NVNT	1-DH5	2402	Ant0	No-Hopping	2390	-59.98	2.45	37.73	Average	54	Pass
NVNT	1-DH5	2480	Ant0	No-Hopping	2483.5	-47.95	2.45	49.76	Peak	74	Pass
NVNT	1-DH5	2480	Ant0	No-Hopping	2483.5	-59.41	2.45	38.30	Average	54	Pass
NVNT	1-DH5	2480	Ant0	No-Hopping	2490.688	-46.69	2.45	51.02	Peak	74	Pass
NVNT	1-DH5	2480	Ant0	No-Hopping	2483.8	-59.28	2.45	38.43	Average	54	Pass
NVNT	1-DH5	2480	Ant0	No-Hopping	2500	-50.12	2.45	47.59	Peak	74	Pass
NVNT	1-DH5	2480	Ant0	No-Hopping	2500	-59.57	2.45	38.14	Average	54	Pass
NVNT	2-DH5	2402	Ant0	No-Hopping	2310	-49.14	2.45	48.57	Peak	74	Pass
NVNT	2-DH5	2402	Ant0	No-Hopping	2310	-60.18	2.45	37.53	Average	54	Pass
NVNT	2-DH5	2402	Ant0	No-Hopping	2350.608	-47.35	2.45	50.36	Peak	74	Pass
NVNT	2-DH5	2402	Ant0	No-Hopping	2373.84	-59.79	2.45	37.92	Average	54	Pass
NVNT	2-DH5	2402	Ant0	No-Hopping	2390	-50.87	2.45	46.84	Peak	74	Pass
NVNT	2-DH5	2402	Ant0	No-Hopping	2390	-59.94	2.45	37.77	Average	54	Pass
NVNT	2-DH5	2480	Ant0	No-Hopping	2483.5	-49.64	2.45	48.07	Peak	74	Pass
NVNT	2-DH5	2480	Ant0	No-Hopping	2483.5	-58.73	2.45	38.98	Average	54	Pass
NVNT	2-DH5	2480	Ant0	No-Hopping	2497.072	-46.64	2.45	51.07	Peak	74	Pass
NVNT	2-DH5	2480	Ant0	No-Hopping	2483.536	-58.69	2.45	39.02	Average	54	Pass
NVNT	2-DH5	2480	Ant0	No-Hopping	2500	-49.93	2.45	47.78	Peak	74	Pass
NVNT	2-DH5	2480	Ant0	No-Hopping	2500	-59.56	2.45	38.15	Average	54	Pass
NVNT	3-DH5	2402	Ant0	No-Hopping	2310	-51.37	2.45	46.34	Peak	74	Pass
NVNT	3-DH5	2402	Ant0	No-Hopping	2310	-60.36	2.45	37.35	Average	54	Pass
NVNT	3-DH5	2402	Ant0	No-Hopping	2347.344	-47.26	2.45	50.45	Peak	74	Pass
NVNT	3-DH5	2402	Ant0	No-Hopping	2384.976	-59.77	2.45	37.94	Average	54	Pass
NVNT	3-DH5	2402	Ant0	No-Hopping	2390	-49.94	2.45	47.77	Peak	74	Pass
NVNT	3-DH5	2402	Ant0	No-Hopping	2390	-59.9	2.45	37.81	Average	54	Pass
NVNT	3-DH5	2480	Ant0	No-Hopping	2483.5	-48.33	2.45	49.38	Peak	74	Pass
NVNT	3-DH5	2480	Ant0	No-Hopping	2483.5	-59.03	2.45	38.68	Average	54	Pass
NVNT	3-DH5	2480	Ant0	No-Hopping	2489.152	-47.15	2.45	50.56	Peak	74	Pass
NVNT	3-DH5	2480	Ant0	No-Hopping	2483.68	-58.97	2.45	38.74	Average	54	Pass
NVNT	3-DH5	2480	Ant0	No-Hopping	2500	-50.89	2.45	46.82	Peak	74	Pass
NVNT	3-DH5	2480	Ant0	No-Hopping	2500	-59.36	2.45	38.35	Average	54	Pass



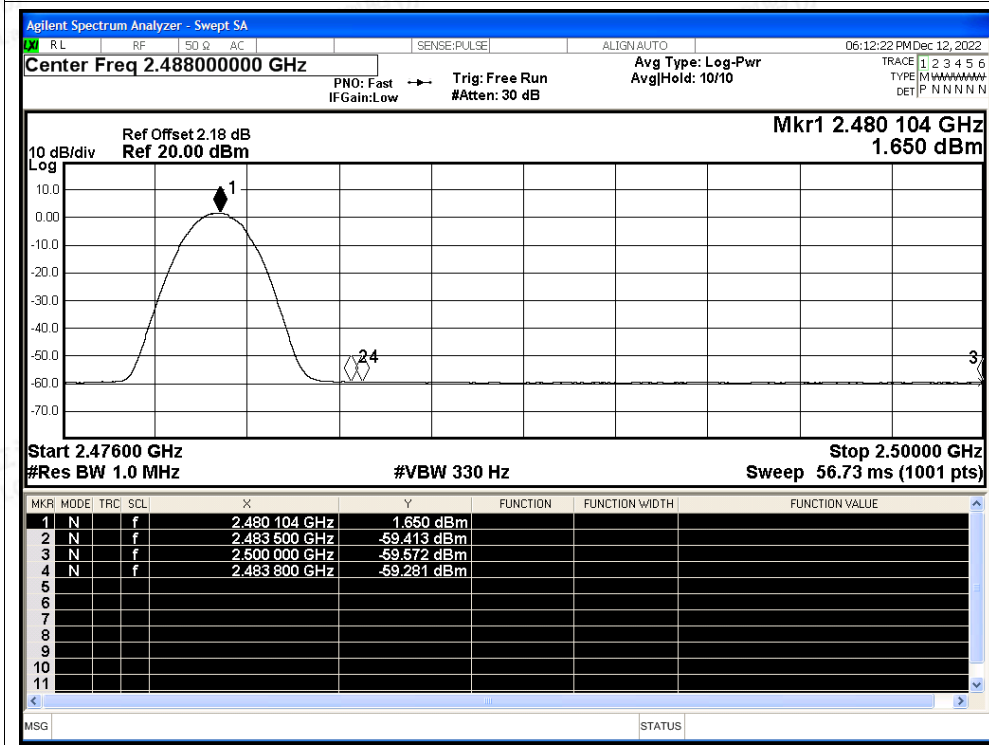
Shenzhen LCS Compliance Testing Laboratory Ltd.
 Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China
 Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com
 Scan code to check authenticity



Restrict Band NVNT 1-DH5 2480MHz Ant0 No-Hopping Peak

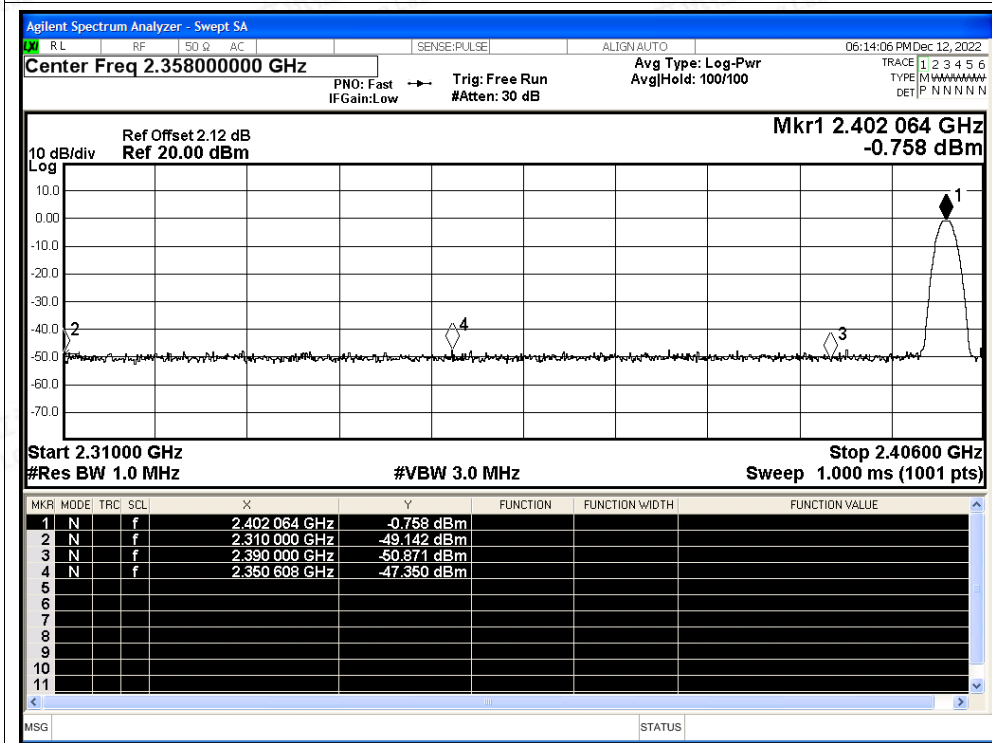


Restrict Band NVNT 1-DH5 2480MHz Ant0 No-Hopping Average

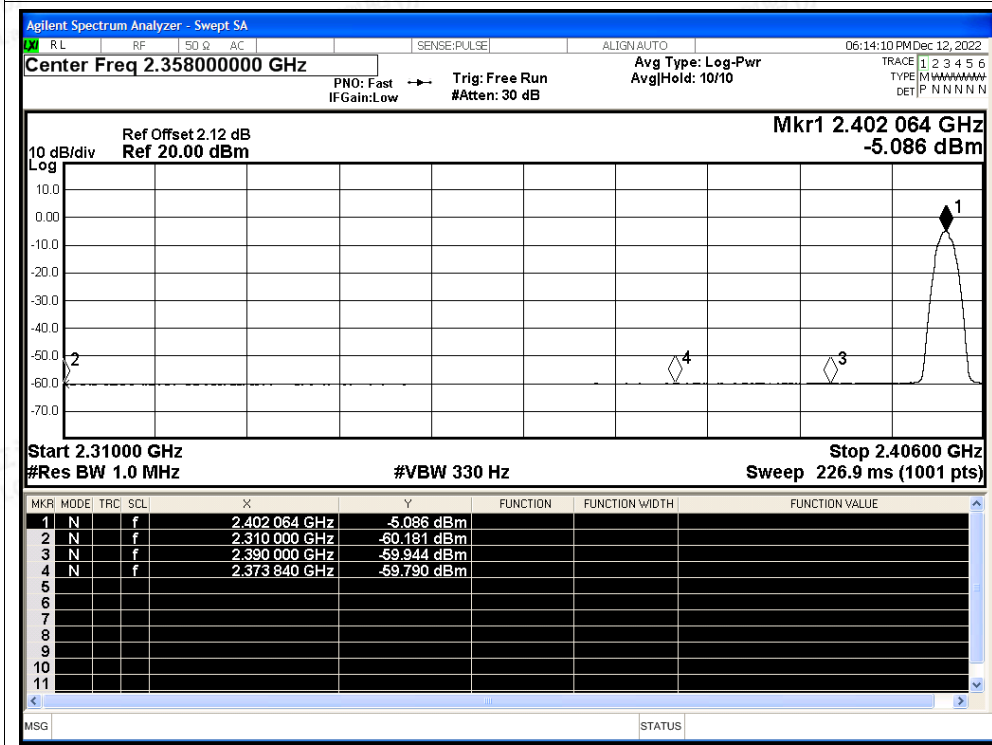




Restrict Band NVNT 2-DH5 2402MHz Ant0 No-Hopping Peak

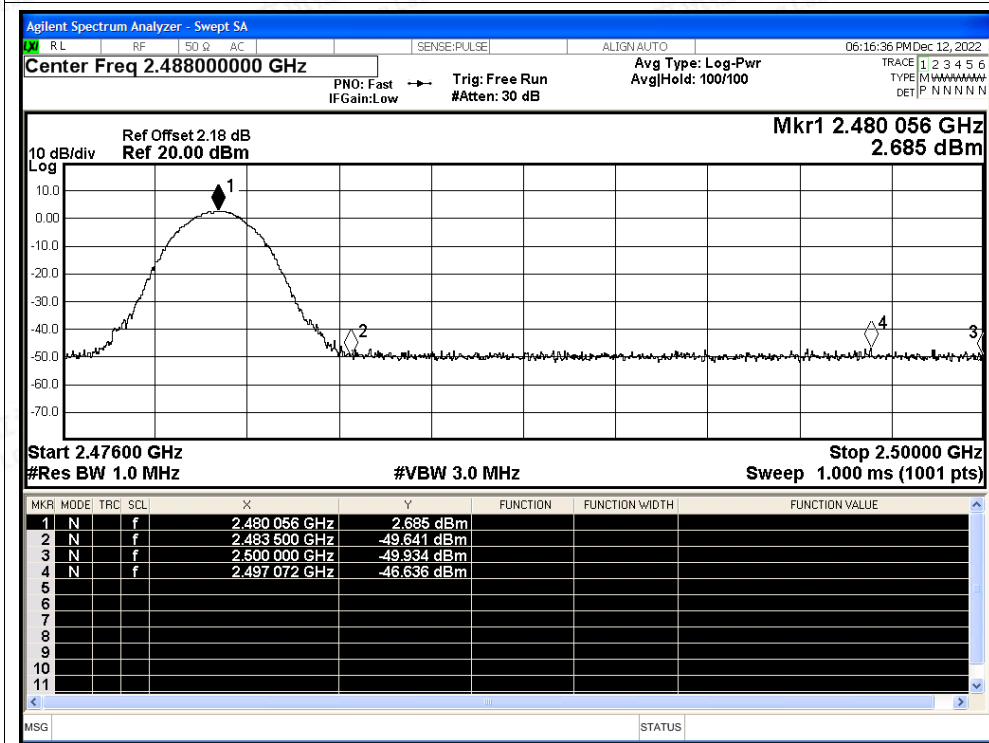


Restrict Band NVNT 2-DH5 2402MHz Ant0 No-Hopping Average

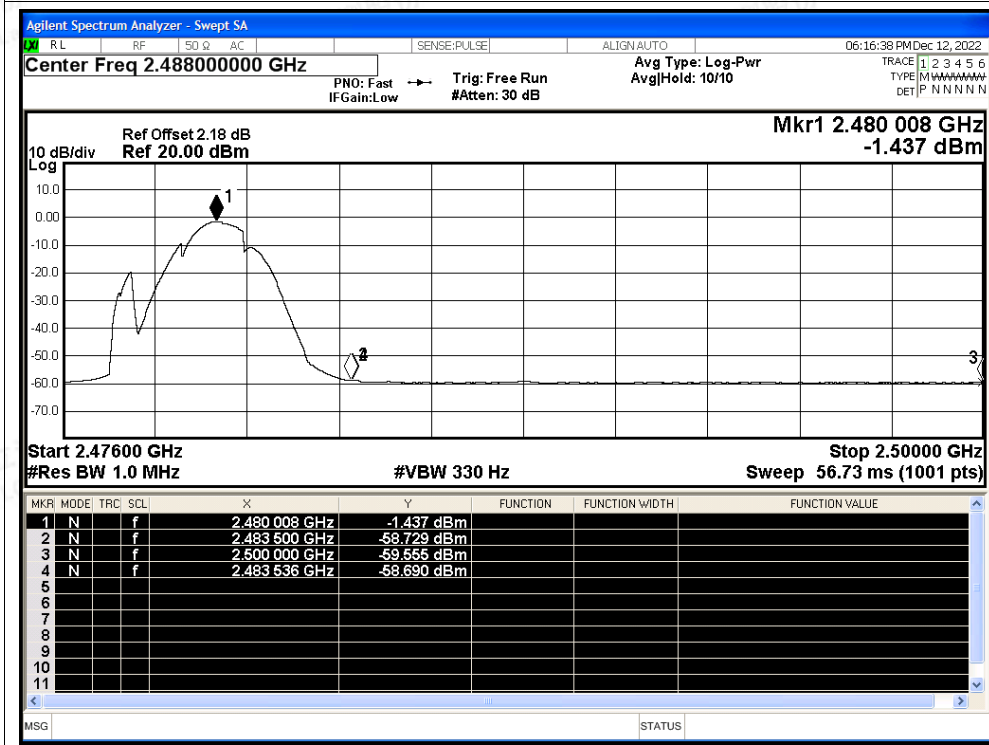




Restrict Band NVNT 2-DH5 2480MHz Ant0 No-Hopping Peak

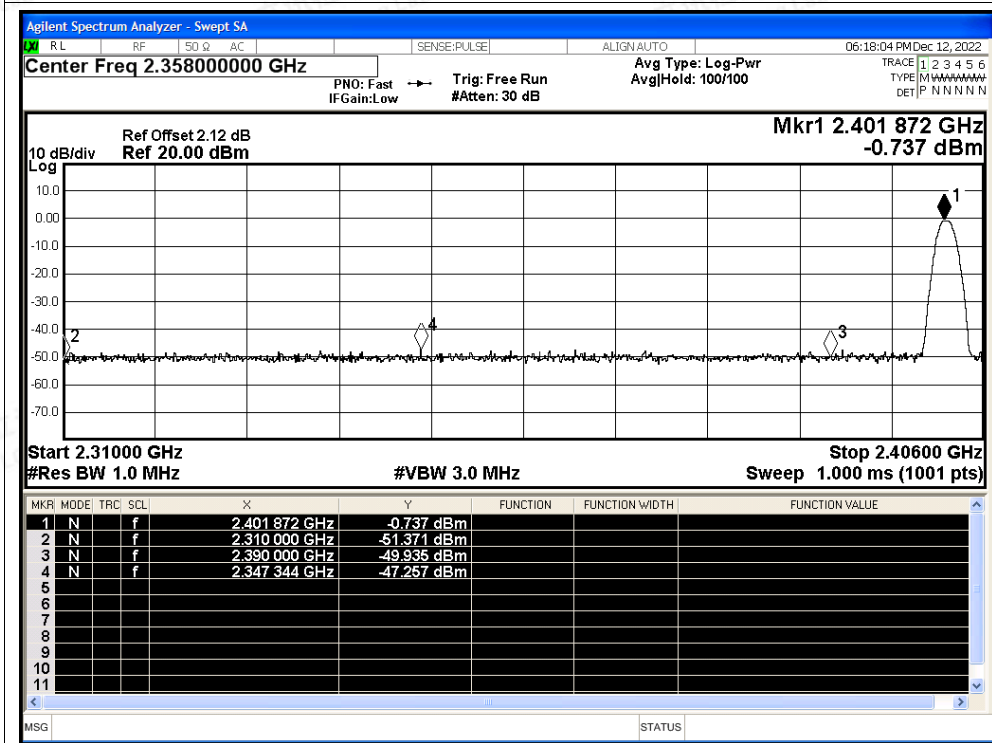


Restrict Band NVNT 2-DH5 2480MHz Ant0 No-Hopping Average

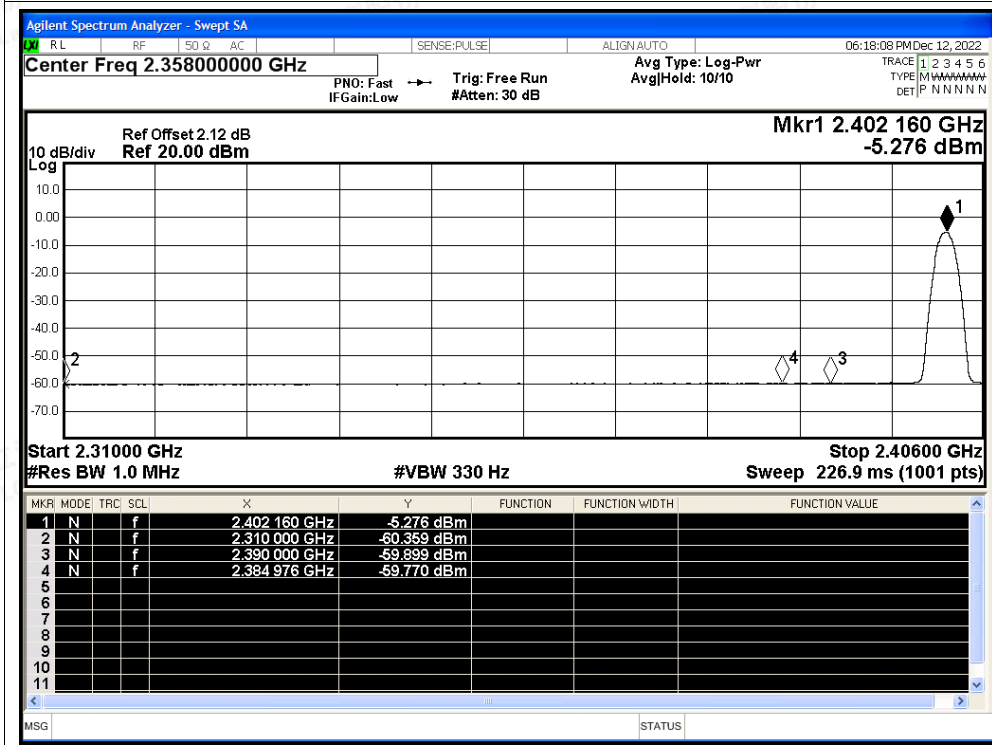




Restrict Band NVNT 3-DH5 2402MHz Ant0 No-Hopping Peak

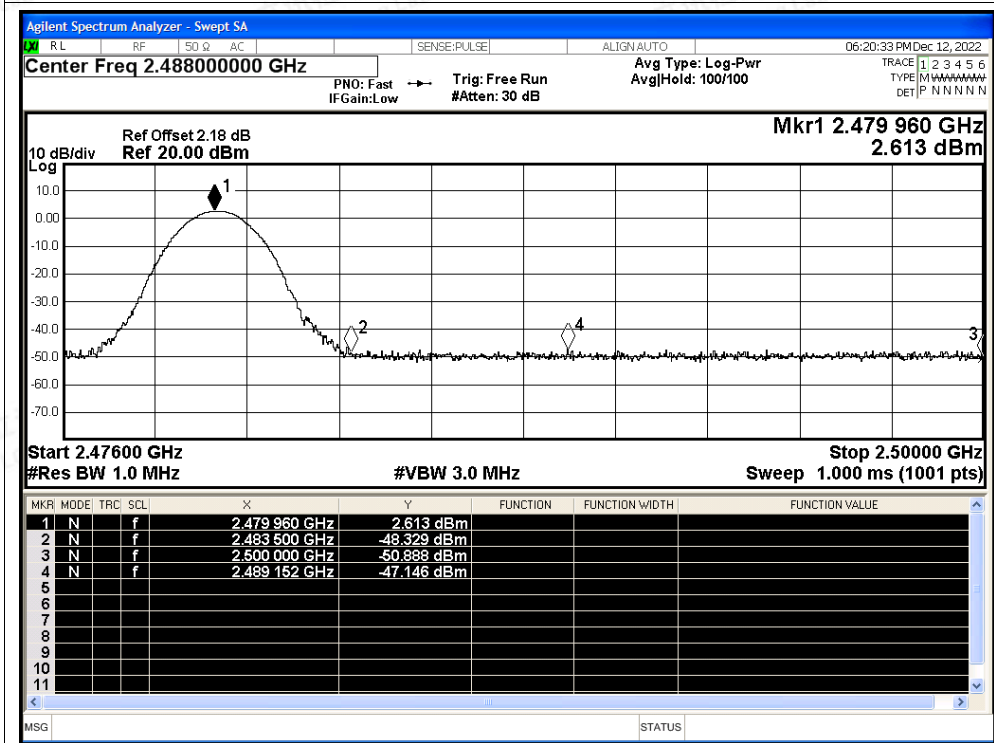


Restrict Band NVNT 3-DH5 2402MHz Ant0 No-Hopping Average





Restrict Band NVNT 3-DH5 2480MHz Ant0 No-Hopping Peak



Restrict Band NVNT 3-DH5 2480MHz Ant0 No-Hopping Average

